

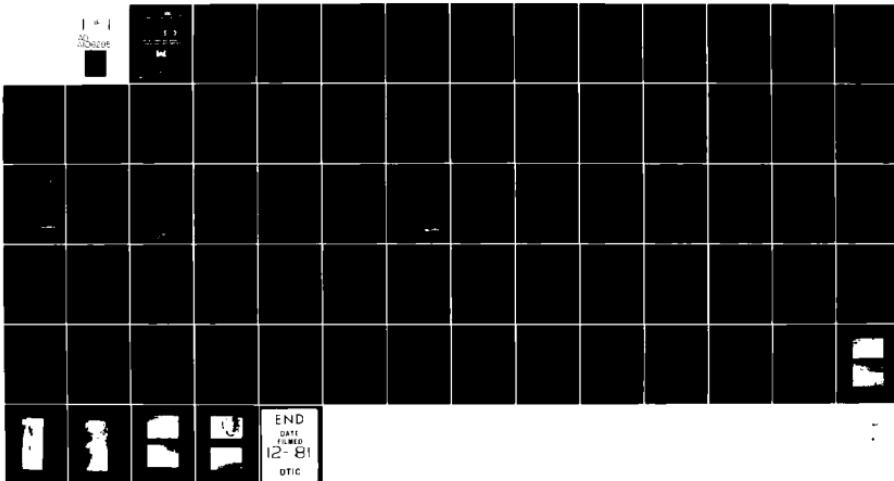
AD-A106 295 ANDERSON ENGINEERING INC SPRINGFIELD MO  
NATIONAL DAM SAFETY PROGRAM, VAN METER I  
DEC 78 J M HEALY, S L BRADY

F/S 13/13

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DACP43-78-C-0070  
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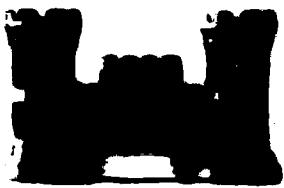
MISSOURI - KANSAS CITY BASIN

AD A 106293

VAN METER DAM  
SALINE COUNTY, MISSOURI  
MO 65355

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OCT 28 1981  
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**PHASE I INSPECTION REPORT  
NATIONAL DAM SAFETY PROGRAM**

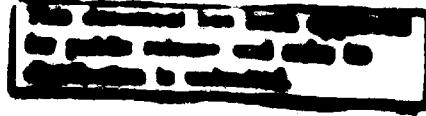


PREPARED BY: U. S. ARMY ENGINEER DISTRICT, ST. LOUIS

FOR: STATE OF MISSOURI

100%  
100%

SEARCHED 1986



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1. REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS  
BEFORE COMPLETING FORM

REPORT NUMBER

RD-HI-06 295

NAME AND ADDRESS

NAME

REPORTING SOURCE AND DATE OF REPORT

TYPE OF REPORT & PERIOD

- INFORMATION REPORT
- INFORMATION REPORT AND ANALYSIS
- INFORMATION REPORT AND PREDICTION

REPORTING SOURCE AND DATE OF REPORT

TYPE OF REPORT & PERIOD

REPORTING SOURCE AND DATE OF REPORT

## INSTRUCTIONS FOR PREPARATION OF REPORT DOCUMENTATION PAGE

**RESPONSIBILITY:** The controlling DoD office will be responsible for completion of the Report Documentation Page, DD Form 1473, in all technical reports prepared by or for DoD organizations.

**CLASSIFICATION:** Since this Report Documentation Page, DD Form 1473, is used in preparing announcements, bibliographies, and data banks, it should be unclassified if possible. If a classification is required, identify the classified items on the page by the appropriate symbols.

### COMPLETION GUIDE

**General:** Make Blocks 1, 4, 8, 9, 11, 13, 15, and 16 agree with the corresponding information on the report cover. Leave Blocks 2 and 3 blank.

**Block 4 - Report Number:** Enter the unique alphanumeric report number shown on the cover.

**Block 5 - Document Accession No.:** Leave blank. This space is for use by the Defense Documentation Center.

**Block 6 - Recipient's Catalog Number:** Leave blank. This space is for the use of the report recipient to assist in future retrieval of the document.

**Block 7 - Title and Subtitle:** Enter the title in all capital letters exactly as it appears on the publication. Titles should be unclassified whenever possible. Write out the English equivalent for Greek letters and mathematical symbols in the title (see "Aeronautical and Space and Technology Reports of Defense" sponsored RDT&E ADD-667-000). If the report has a subtitle, this subtitle should be in the main title, separated by a comma or semicolon if appropriate, and be initially capitalized. If a publication has a title in a foreign language, translate the title into English and follow the English translation with the title in the original language. Make certain effort is made to unify the title before publication.

**Block 8 - Type of Report and Period Covered:** Indicate here whether report is interim, final, etc., and, if applicable, inclusive date of the period covered plus the title of the contract or grant for a final contract or grant report.

**Block 9 - Performing Organization - Report Number:** Only numbers other than the official report number shown in Block 1, such as contract numbers for a contract report or a contract grantee number assigned by him, will be placed in this space. If no such numbers exist, leave this space blank.

**Block 10 - Author(s) and Affiliation:** Give the name(s) of the author(s) in conventional form, e.g., John A. Smith, Researcher. In addition, list the affiliation of an author if it differs from that of the performing organization.

**Block 11 - Contract or Grant Number:** For a contractor or grantee report, enter the complete contract or grant number(s) under which the report was originated, plus the blank for in-house reports.

**Block 12 - Contractor or Grantee Name and Address:** For in-house reports enter the name and address, including office symbol, of the author. For contractor or grantee reports, enter the name and address of the contractor or grantee who prepared the report, including office symbol, plus the name and address of the author. List city, state, and ZIP Code.

**Block 13 - Program Element, Project Task Area, and Work Unit Numbers:** Enter here the number code from the applicable program element, project task area, and work unit summary of the DD Form 1634, "Research and Technology Work Unit Summary," or the DD Form 1634, "Research and Technology Work Unit Summary," which identifies the program element, project, task area, and work unit or equivalent designation for the report.

**Block 14 - Distribution Statement:** Enter the distribution statement from DD Form 1634, "Distribution Statements on Research and Technology Work Units," or DD Form 1634, "Distribution Statements on Technical Data," whichever is applicable.

**Block 15 - Security Classification:** Enter the security classification of the report, month and year(s) shown on the cover.

**Block 16 - Security Declassification:** Enter the security classification of the report.

**Block 17 - Dissemination:** Enter the dissemination category of the report. Because when the controlling or funding organization is not the same as the author, give the administrative responsibility to another organization.

**Block 18 - Downgrading Schedule of the Report:** Enter in 15 month increments the appropriate entries using the declassification/downgrading schedule of the report, using the DD Form 1634, "Declassification/Downgrading Schedule," or DD Form 1634, "Declassification/Downgrading Schedule," whichever is applicable.

**Block 19 - Distribution Statement:** Enter the distribution statement of the report from DoD Form 1634, "Distribution Statements on Research and Technology Work Units," or DoD Form 1634, "Distribution Statements on Technical Data," whichever is applicable.

**Block 20 - Classification:** Enter the classification of the report. If the report is unclassified, enter "UNCLASSIFIED." If the report is classified, enter the classification and the appropriate "DoD D" Thesaurus code.

**Block 21 - Abstract:** Enter a brief abstract of the report. The abstract should be the most significant information contained in the report. It should be brief enough to fit on one page. The abstract may be unclassified or classified. If the report is classified, enter the classification, the subject, bibliographical, literature survey, mention of significant findings, conclusions, recommendations, and any other pertinent information. Use the Report of Defense Specialized RDT&E Form 1634, "Abstract," or DD Form 1634, "Abstract," whichever is applicable.



DEPARTMENT OF THE ARMY  
ST. LOUIS DISTRICT, CORPS OF ENGINEERS  
210 NORTH 12TH STREET  
ST. LOUIS, MISSOURI 63101

IN REPLY REFER TO

SUBJECT: Van Meter Dam (Mo. 10658), Phase I Inspection Report

This report presents the results of field inspection and evaluation of Van Meter Dam (Mo. 10658).

It was prepared under the National Program of Inspection of Non-Federal Dams.

The St. Louis District has classified this dam as unsafe because of heavy tree growth on the downstream face, excessive seepage under the dam, and a highly erodible spillway.

SUBMITTED BY:

Chief, Engineering Division

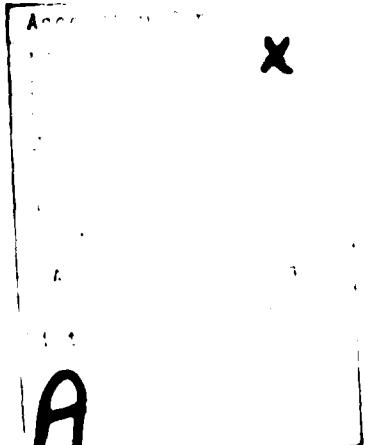
15 NOV 1979

Date

APPROVED BY:

Colonel, CE, District Engineer

Date



VAN METER DAM  
SALINE COUNTY, MISSOURI  
MISSOURI INVENTORY NO. 10658

PHASE I INSPECTION REPORT  
NATIONAL DAM SAFETY PROGRAM

Prepared by

Auditorium Engineering, Inc., Springfield, Missouri  
and on engineering, Inc., Springfield, Illinois

for

The Governor of Missouri

Inventory No. 8

## A. V. GOLDBECK AND J. R. HARRIS

## C. C. T. CHEN AND J. R. HARRIS

Department of Psychology, University of Alberta,  
Edmonton, Alberta, Canada T6G 2E9

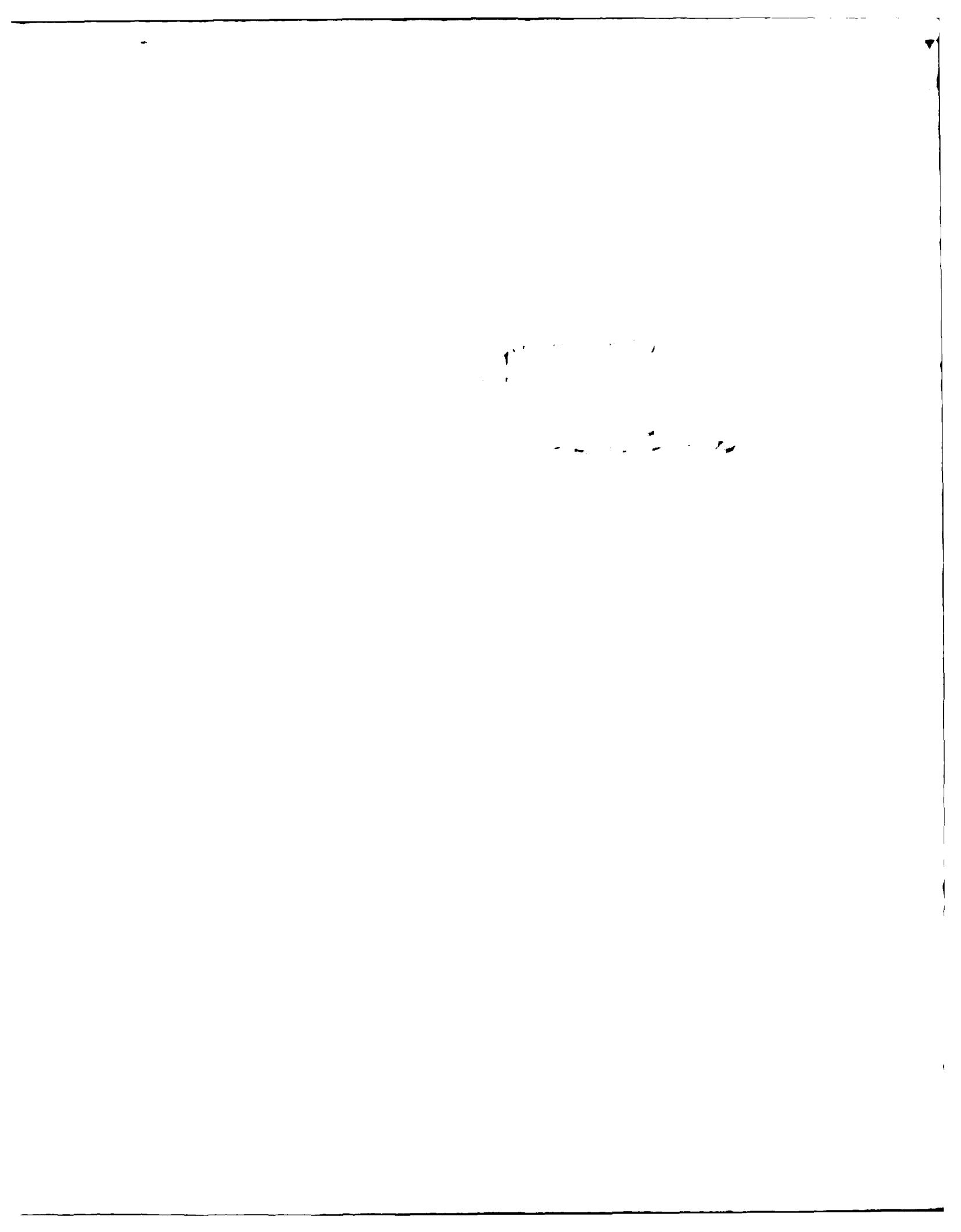
Received 12 January 1990; accepted 12 April 1990.

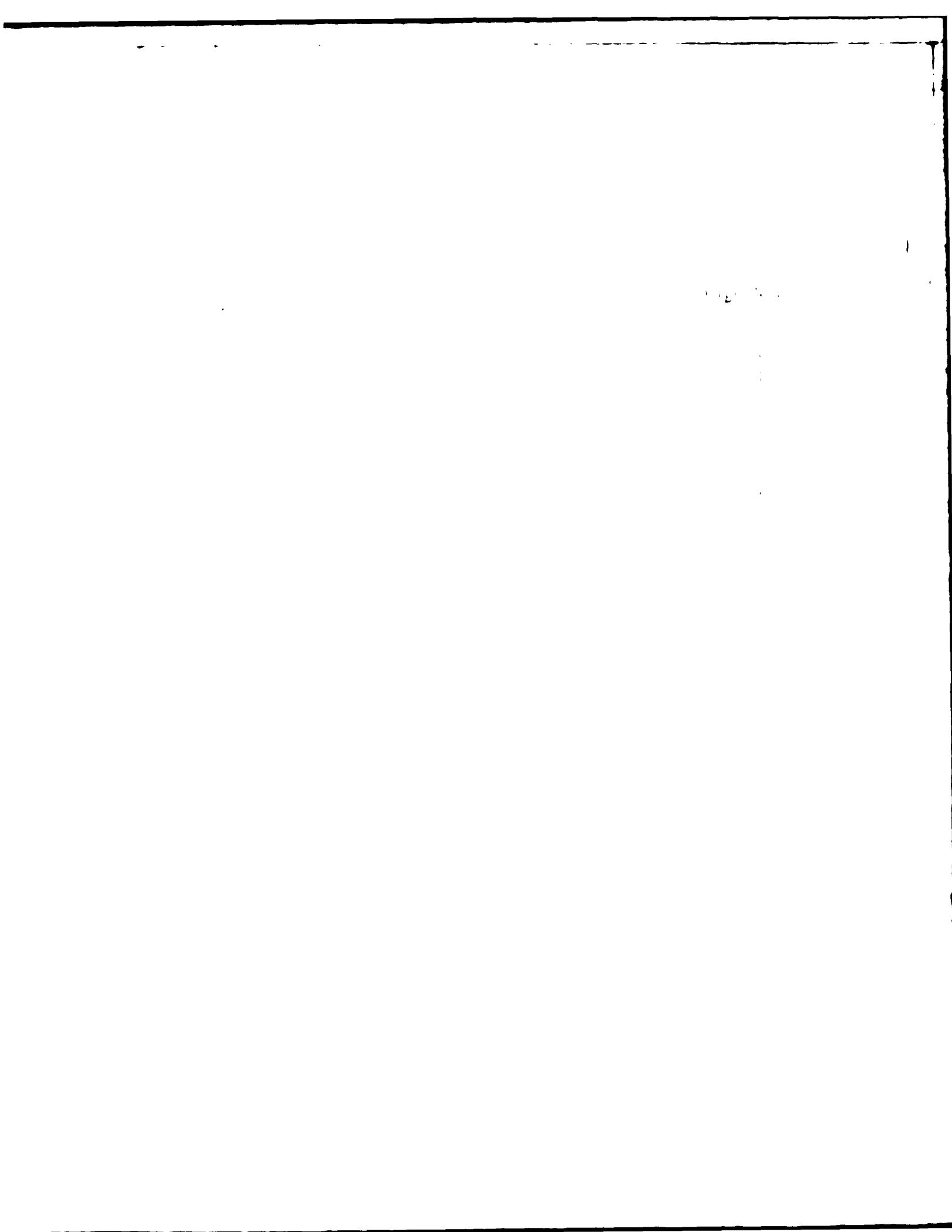
Address reprint requests to C. C. T. Chen, Department of Psychology, University of Alberta, Edmonton, Alberta, Canada T6G 2E9.

**Abstract.** The present study examined the effect of a 10-min pre-exposure to a 10-min film on subsequent memory for the film. In the first experiment, subjects were exposed to a 10-min film of a man's face. They were then given a 10-min pre-exposure to either a 10-min film of a woman's face or a 10-min film of a man's face. Finally, they were given a 10-min post-exposure to either a 10-min film of a woman's face or a 10-min film of a man's face. The results showed that subjects' memory for the target film was better when they had been pre-exposed to a man's face than when they had been pre-exposed to a woman's face. In the second experiment, subjects were exposed to a 10-min film of a man's face. They were then given a 10-min pre-exposure to either a 10-min film of a woman's face or a 10-min film of a man's face. Finally, they were given a 10-min post-exposure to either a 10-min film of a woman's face or a 10-min film of a man's face. The results showed that subjects' memory for the target film was better when they had been pre-exposed to a woman's face than when they had been pre-exposed to a man's face. These findings support the hypothesis that memory for a stimulus is enhanced when it is preceded by a stimulus of the same sex.

Memory for a stimulus is often enhanced when it is preceded by a stimulus of the same sex (e.g., Goldbeck & Harris, 1988; Goldbeck, Harris, & Chen, 1989). This finding has been interpreted as reflecting sex-specific processing of sex-typical stimuli (e.g., Goldbeck & Harris, 1988). If this interpretation is correct, then memory for a stimulus of one sex should be enhanced when it is preceded by a stimulus of the same sex. The present experiments were designed to test this hypothesis. In the first experiment, subjects were exposed to a 10-min film of a man's face. They were then given a 10-min pre-exposure to either a 10-min film of a woman's face or a 10-min film of a man's face. Finally, they were given a 10-min post-exposure to either a 10-min film of a woman's face or a 10-min film of a man's face. The results showed that subjects' memory for the target film was better when they had been pre-exposed to a man's face than when they had been pre-exposed to a woman's face. In the second experiment, subjects were exposed to a 10-min film of a man's face. They were then given a 10-min pre-exposure to either a 10-min film of a woman's face or a 10-min film of a man's face. Finally, they were given a 10-min post-exposure to either a 10-min film of a woman's face or a 10-min film of a man's face. The results showed that subjects' memory for the target film was better when they had been pre-exposed to a woman's face than when they had been pre-exposed to a man's face.

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## APPENDICES

Sheet

### APPENDIX A

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Primary Spillway (Russell & Axon)	4

### APPENDIX B

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Soil Profile W-C-S Design Report	7
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Stability Analysis (W-C-S)	9
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### APPENDIX C

Map of proposed dam site - MD	1 - 6
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Map of proposed dam site, lake and watershed	1 - 5
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## SECTION I - PROJECT INFORMATION

### 1.1 GENERAL:

#### A. Authority:

The National Dam Inspection Act, Public Law 92-567, authorized the Secretary of the Army, through the Corps of Engineers, to initiate a program of safety inspection of dams throughout the United States. Pursuant to the above, the St. Louis District, Corps of Engineers, District Engineer directed that a safety inspection be made of Van Meter Dam in Saline County, Missouri.

#### B. Purpose of Inspection:

The purpose of the inspection was to make an assessment of the general condition of the dam with respect to safety, based upon available data and a visual inspection in order to determine if the dam poses hazards to human life or property.

#### C. Evaluation Criteria:

Criteria used to evaluate the dam were furnished by the Department of the Army, Office of the Chief of Engineers, "Recommended Guidelines for Safety Inspection of Dams". These guidelines were developed with the assistance of the federal agencies and state departments of water resources, engineering organizations, and private consulting firms.

### 2.0 FIELD INSPECTION

#### 2.1 Inspection Dates:

Van Meter Dam was inspected on October 14, 1975.

Van Meter Dam was inspected on October 15, 1975.

Van Meter Dam was inspected on October 16, 1975.

Van Meter Dam was inspected on October 17, 1975.

Van Meter Dam was inspected on October 18, 1975.

Van Meter Dam was inspected on October 19, 1975.

Van Meter Dam was inspected on October 20, 1975.

Van Meter Dam was inspected on October 21, 1975.

Van Meter Dam was inspected on October 22, 1975.

Van Meter Dam was inspected on October 23, 1975.

Van Meter Dam was inspected on October 24, 1975.

Van Meter Dam was inspected on October 25, 1975.

Van Meter Dam was inspected on October 26, 1975.

Van Meter Dam was inspected on October 27, 1975.

Van Meter Dam was inspected on October 28, 1975.

Van Meter Dam was inspected on October 29, 1975.

Van Meter Dam was inspected on October 30, 1975.

Van Meter Dam was inspected on October 31, 1975.

Van Meter Dam was inspected on November 1, 1975.

Van Meter Dam was inspected on November 2, 1975.

Van Meter Dam was inspected on November 3, 1975.

Van Meter Dam was inspected on November 4, 1975.

Van Meter Dam was inspected on November 5, 1975.

Van Meter Dam was inspected on November 6, 1975.

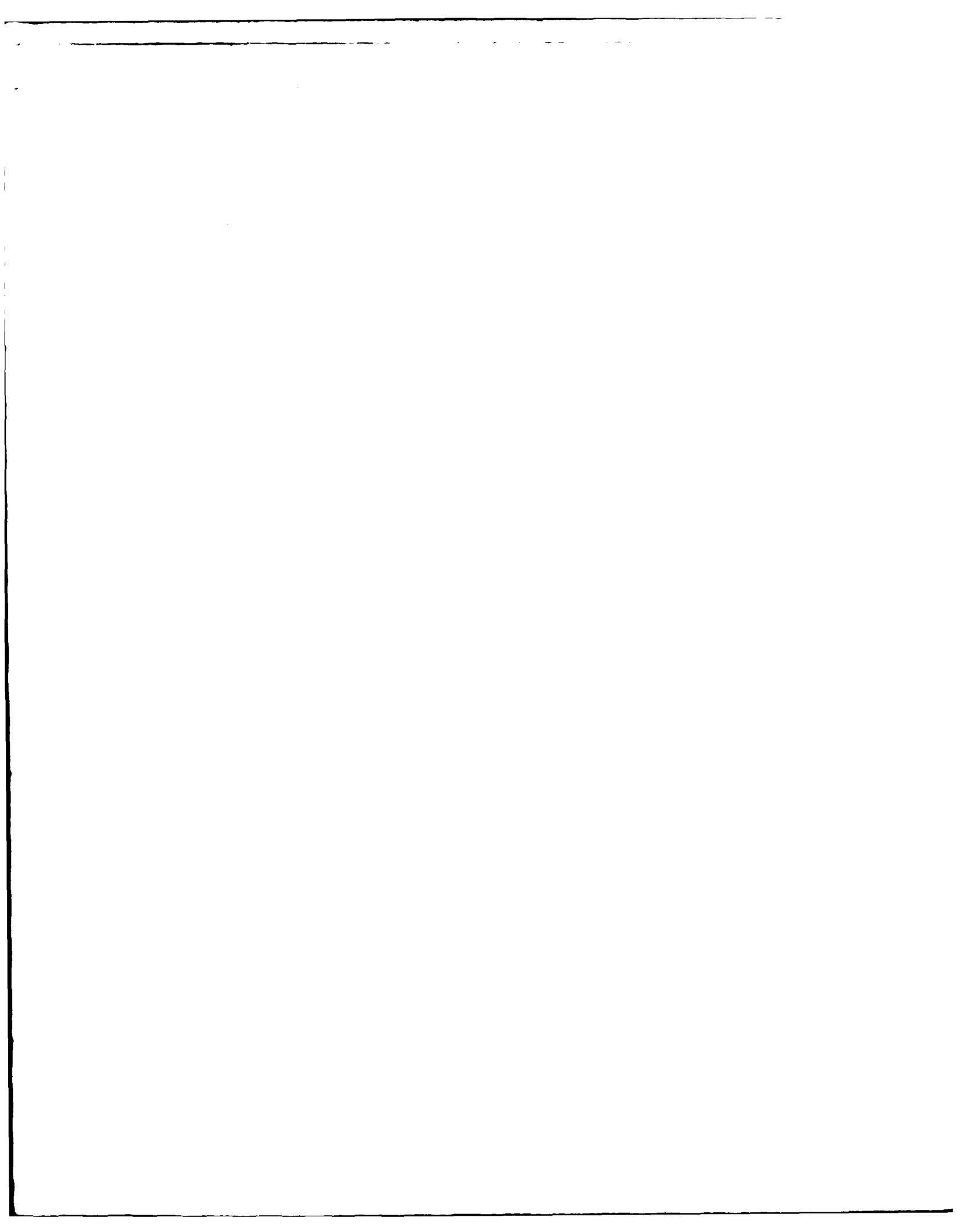
## C. Size Classification:

With an embankment height of 60 ft and a reservoir storage capacity of approximately 534 acre-ft, the dam is in the intermediate size category.

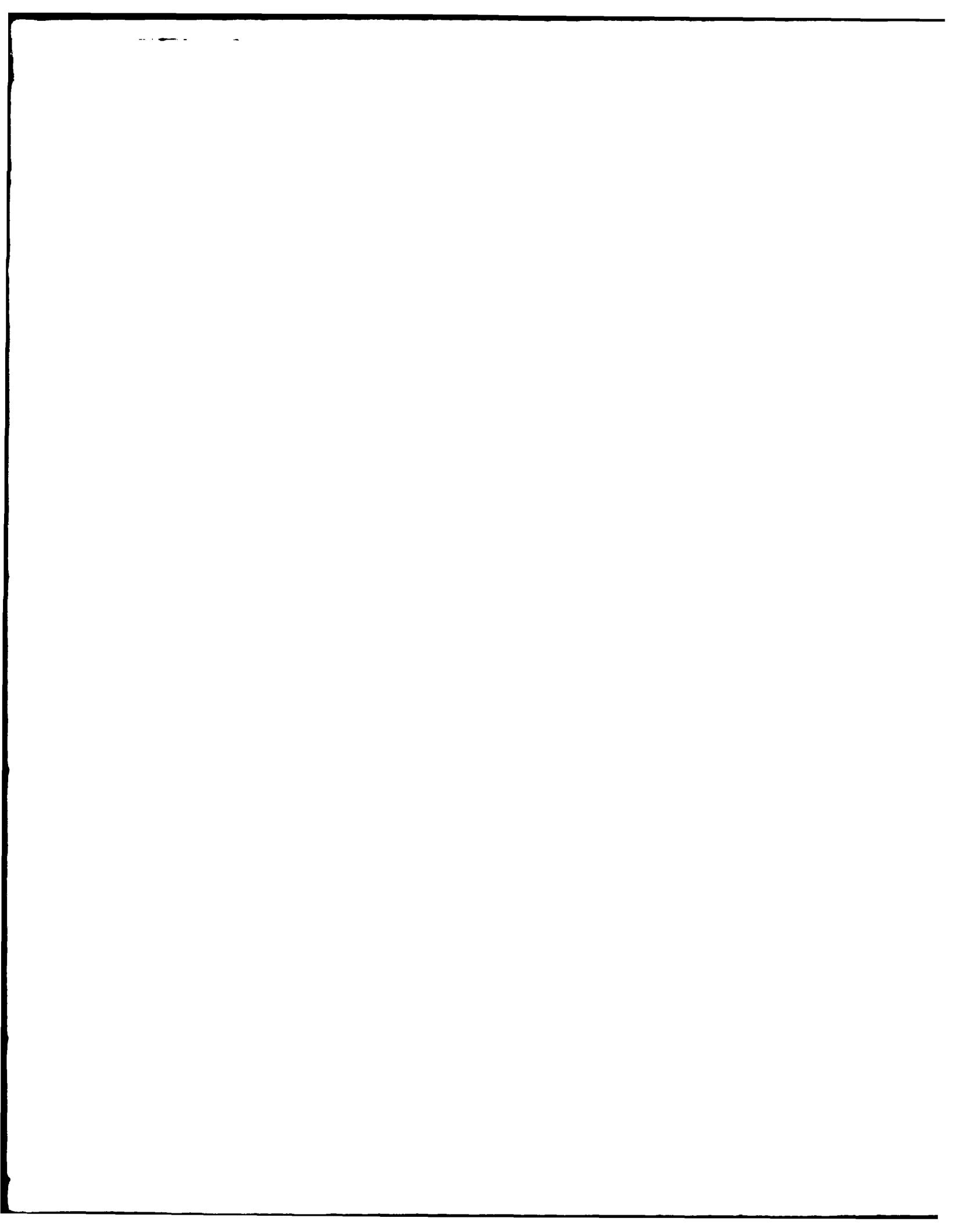
## P. Hazard classification

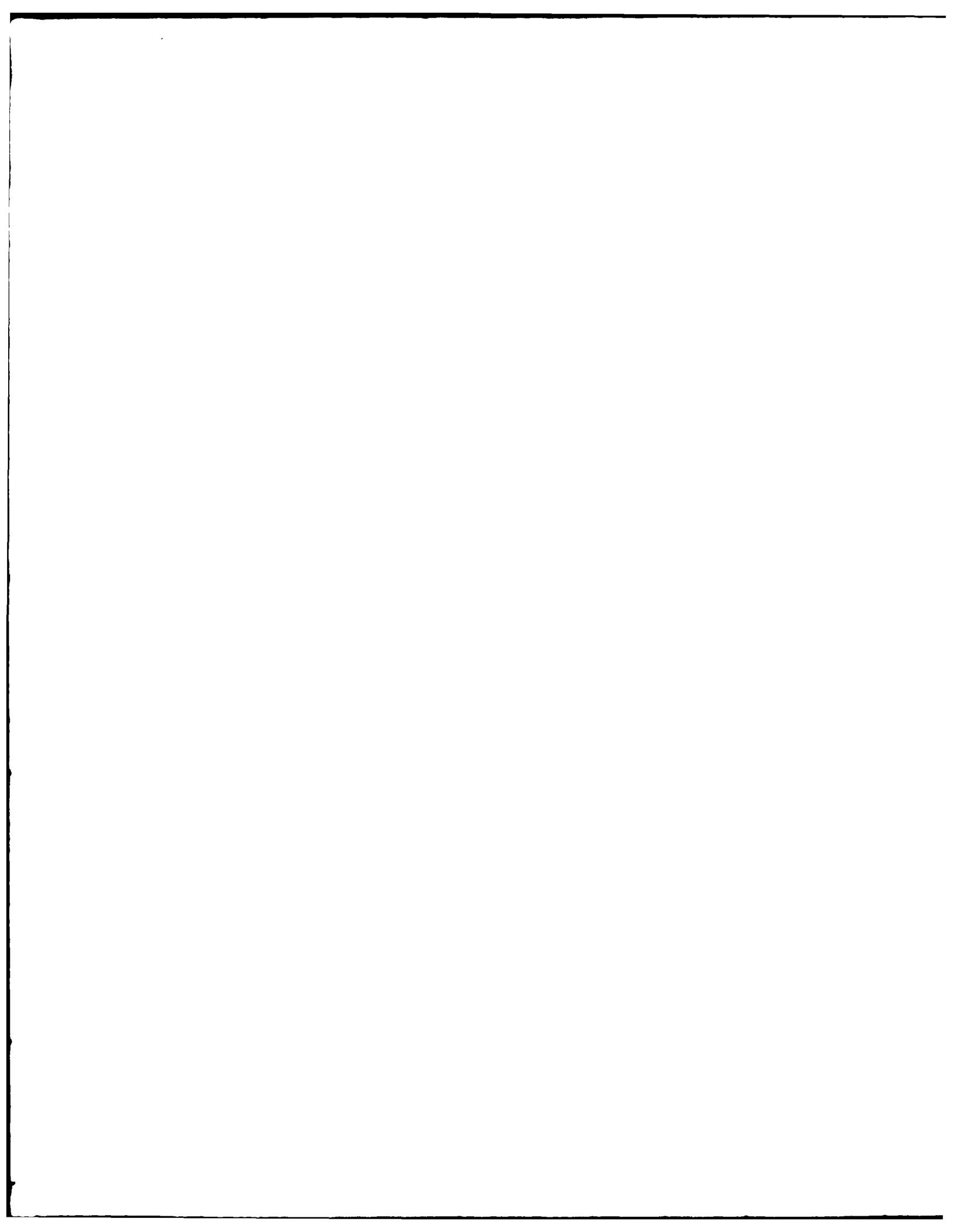
The study found no statistically significant difference between the two dams in the height of the embankment or the length of the dam. The center extends 3.5 miles from the mouth of the river to the dam's center after the river turns to the right. The left bank of the river is 1,110 feet long and the right bank is 1,100 feet long.

1. . . . .

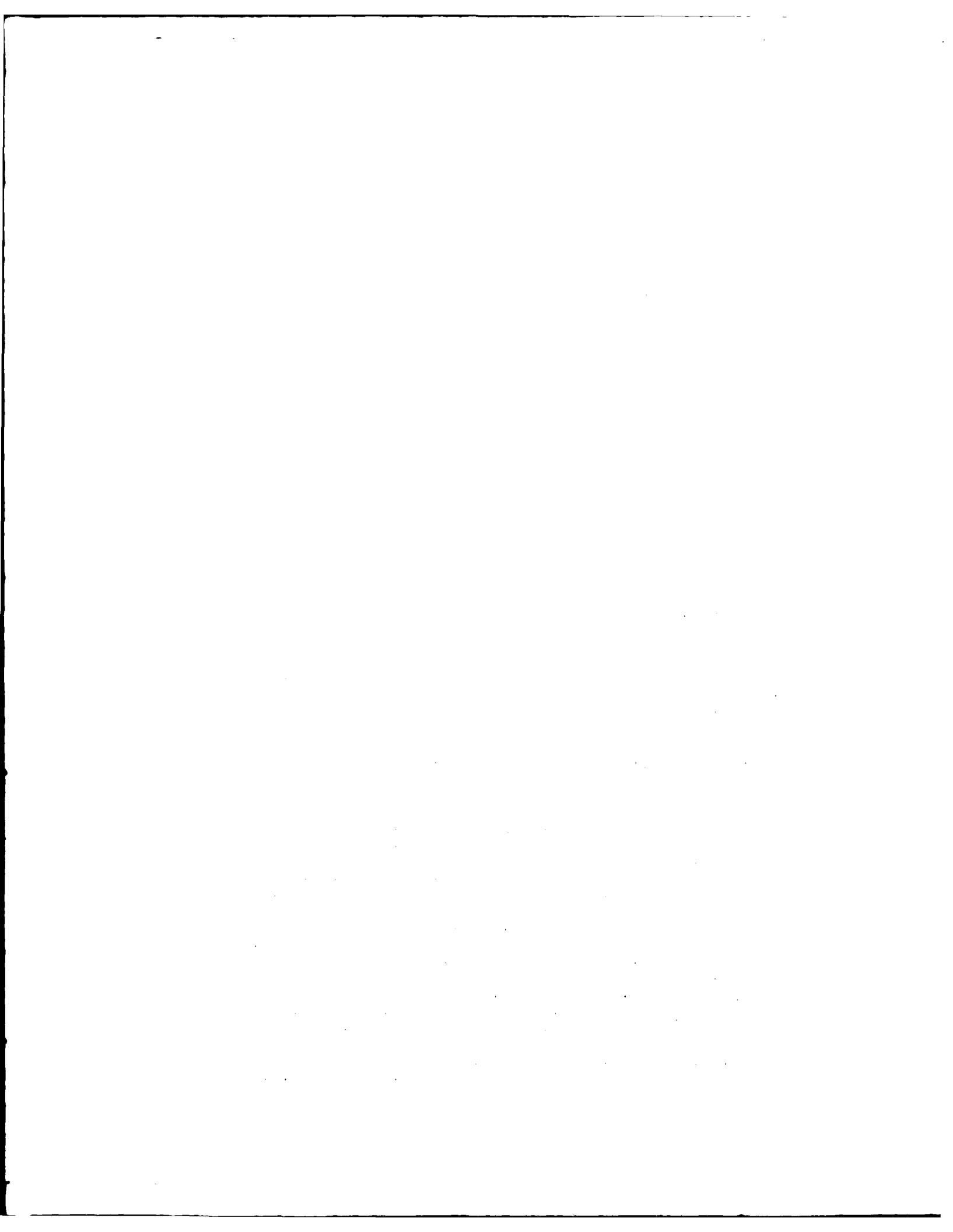


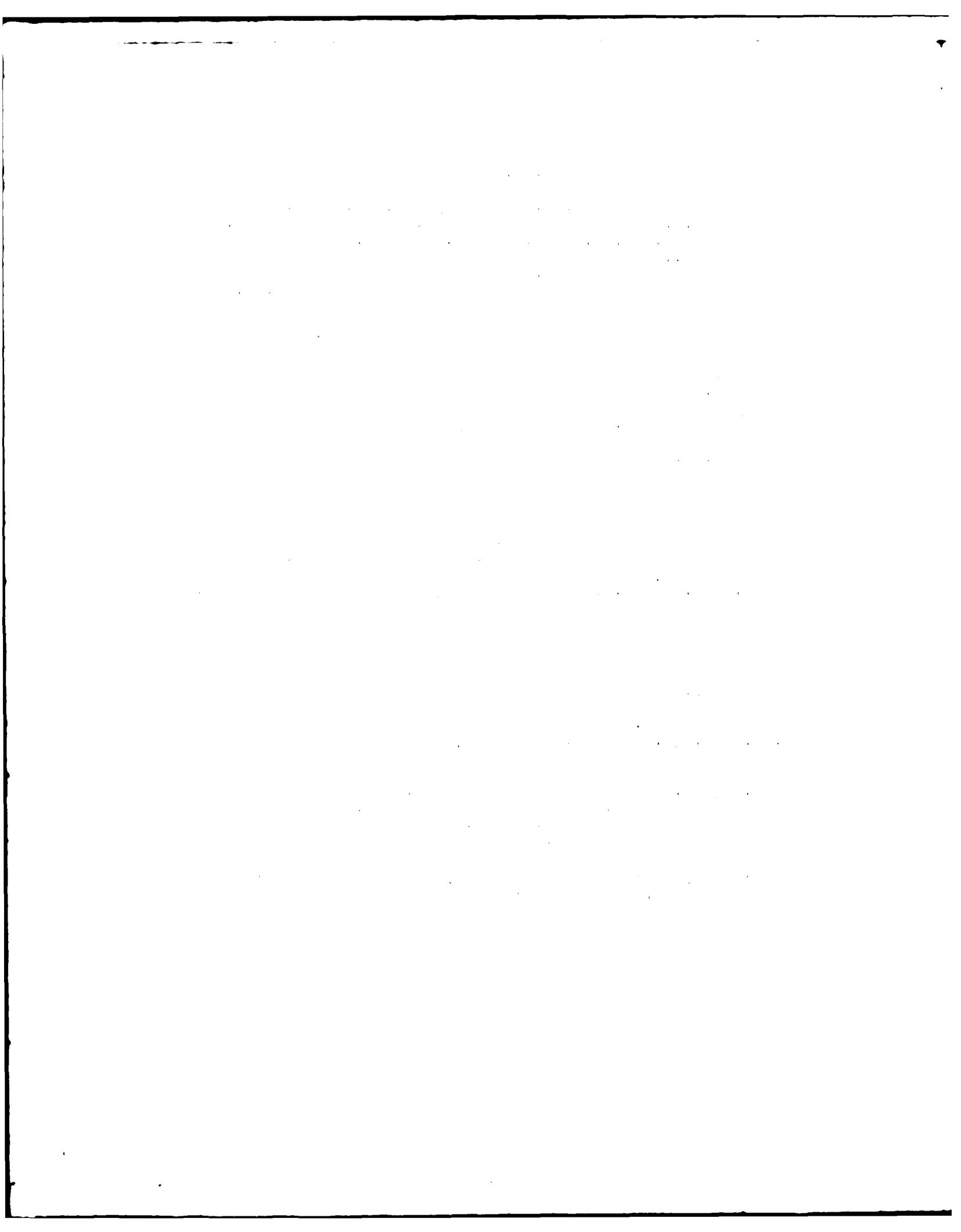












Journal of Cellular Biochemistry Supplements

#### **REFERENCES**

The present primary has a 12-inch diameter inlet pipe which connects to outlet 4 of Appendix A. The valve is apparently used to maintain the lake at elevation 11. The field determined elevation of 11.000 is slightly above normal flow. The valve was left open for inspection during our site inspection.

THE JOURNAL OF CLIMATE

In the amount of shrubs and size of trees on the site for the past many years since the vegetation has been established, there is no regular maintenance of the area.

Journal of the American Statistical Association, Vol. 65, No. 331, March 1970

After the initial test at the 100% except for patients following bypass and valve extramedical condition.

After the first year, the average annual growth rate was 1.1%.

The first step for a team is to aware of the existing winning culture of the organization.

Digitized by srujanika@gmail.com

The earliest form of growth regulation seems to be on the part of the plant itself, as evidenced by the primary and secondary apical dominance.

The second section of the report contains a detailed account of the development of the model and the results obtained.

## SUMMARY AND FINDINGS

### 3.1 EVALUATION

#### A. Design and Experience Data

Based on storage information in the dam report, the Woodward-Tyler-sherard hydraulic information from W-1 report included in Sheets 11-13, an opportunity exists to check out spillway dimensions and embankment elevations. Field information was used where data reported conflicted between the original Design Plans and the field survey. A check of the drainage area from the Intake and outlet hydrologic analysis using U.S. Army Corps of Engineers' guidelines was performed and appears in Appendix C, Sheets 1 to 6.

#### B. Visual Observations

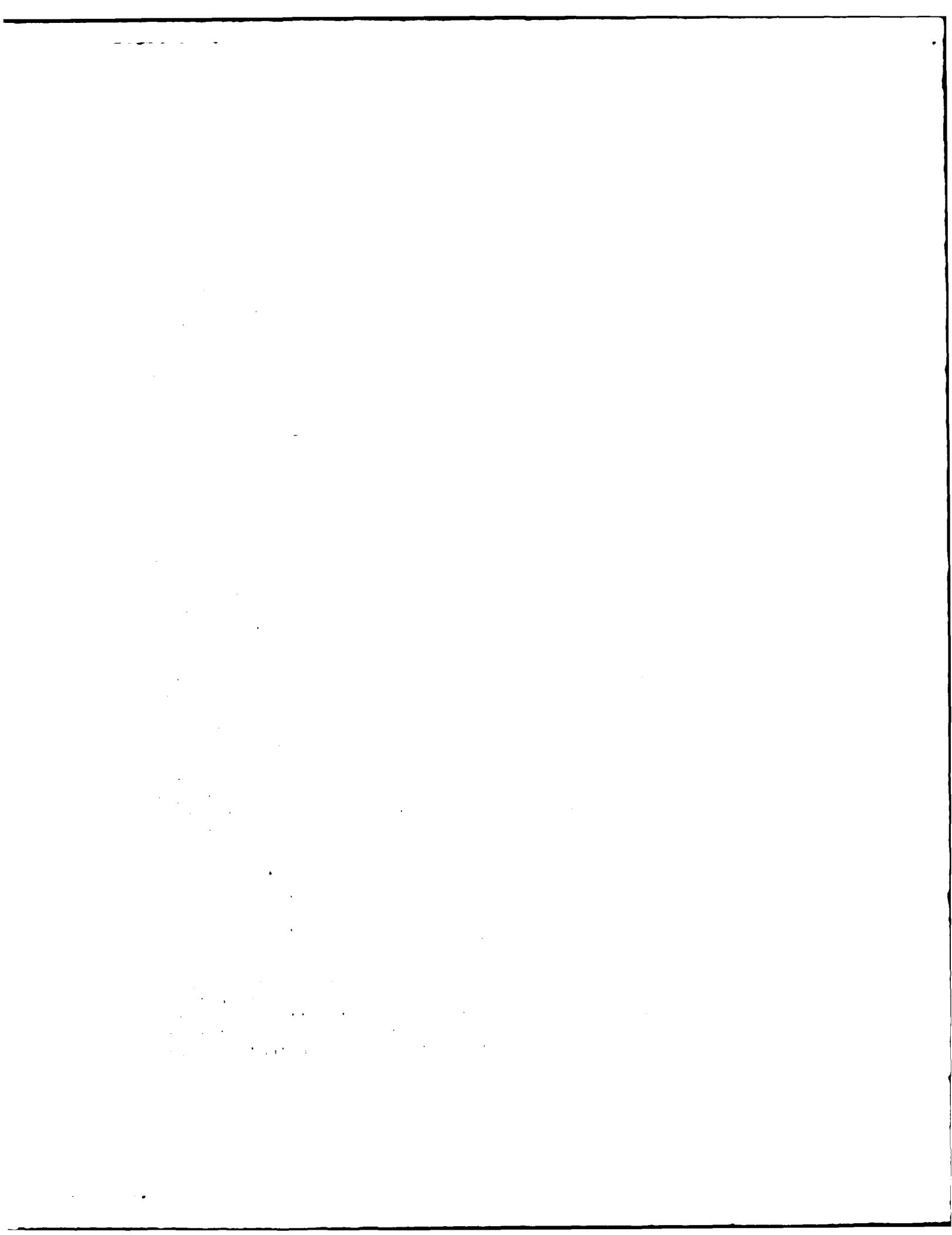
The intake structure and outlet pipe for the primary spillway appear to be in good condition; the outlet pipe should be cleared; the earth emergency spillway is in good condition; the outlet channel of the emergency spillway needs to be cleared; the emergency spillway has apparently never come into service.

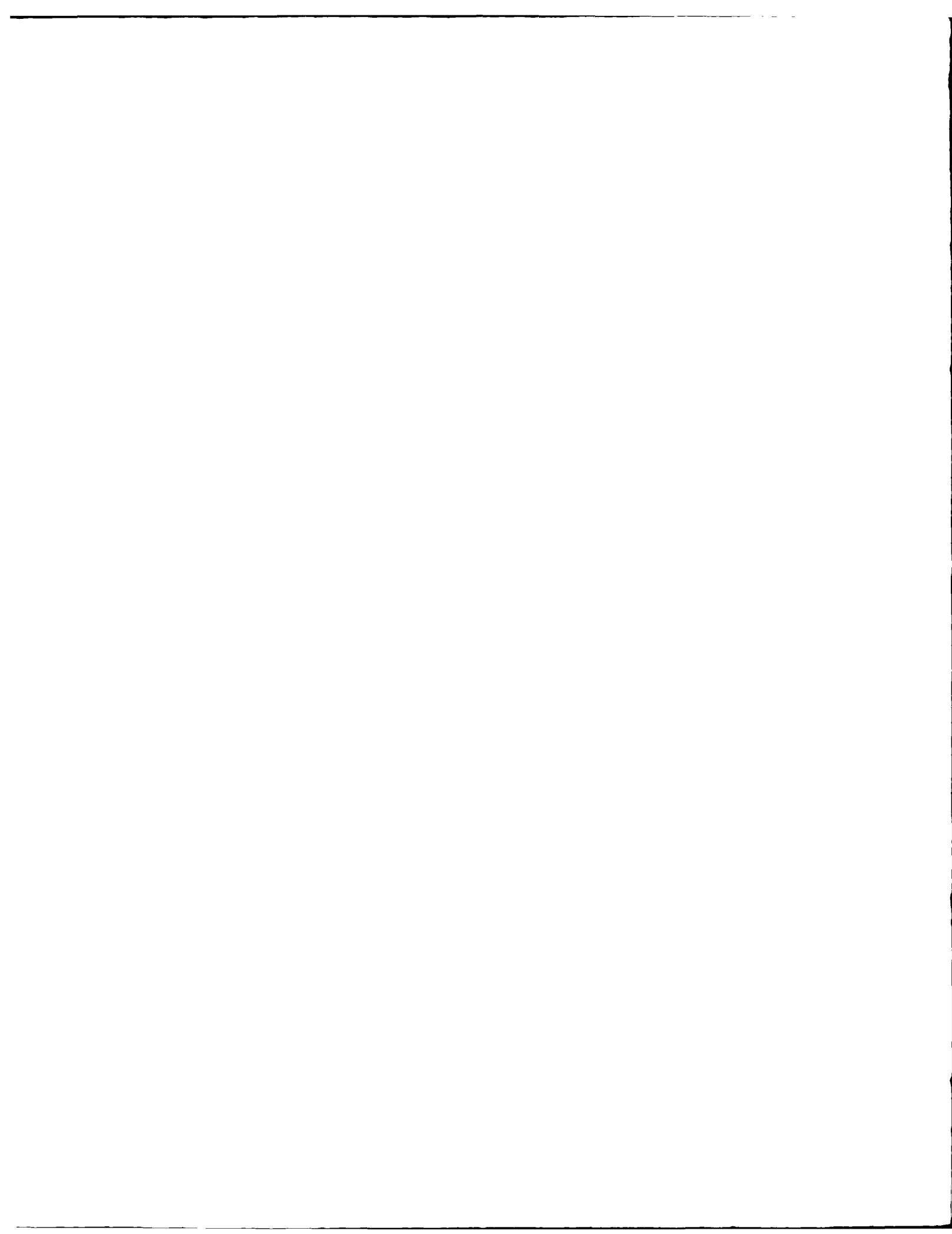
No floodgates are available to draw down the pool. The primary spillway is located near the east abutment, and the secondary spillway is located on the west abutment. Spillway releases would not be expected to enhance the integrity of the dam.

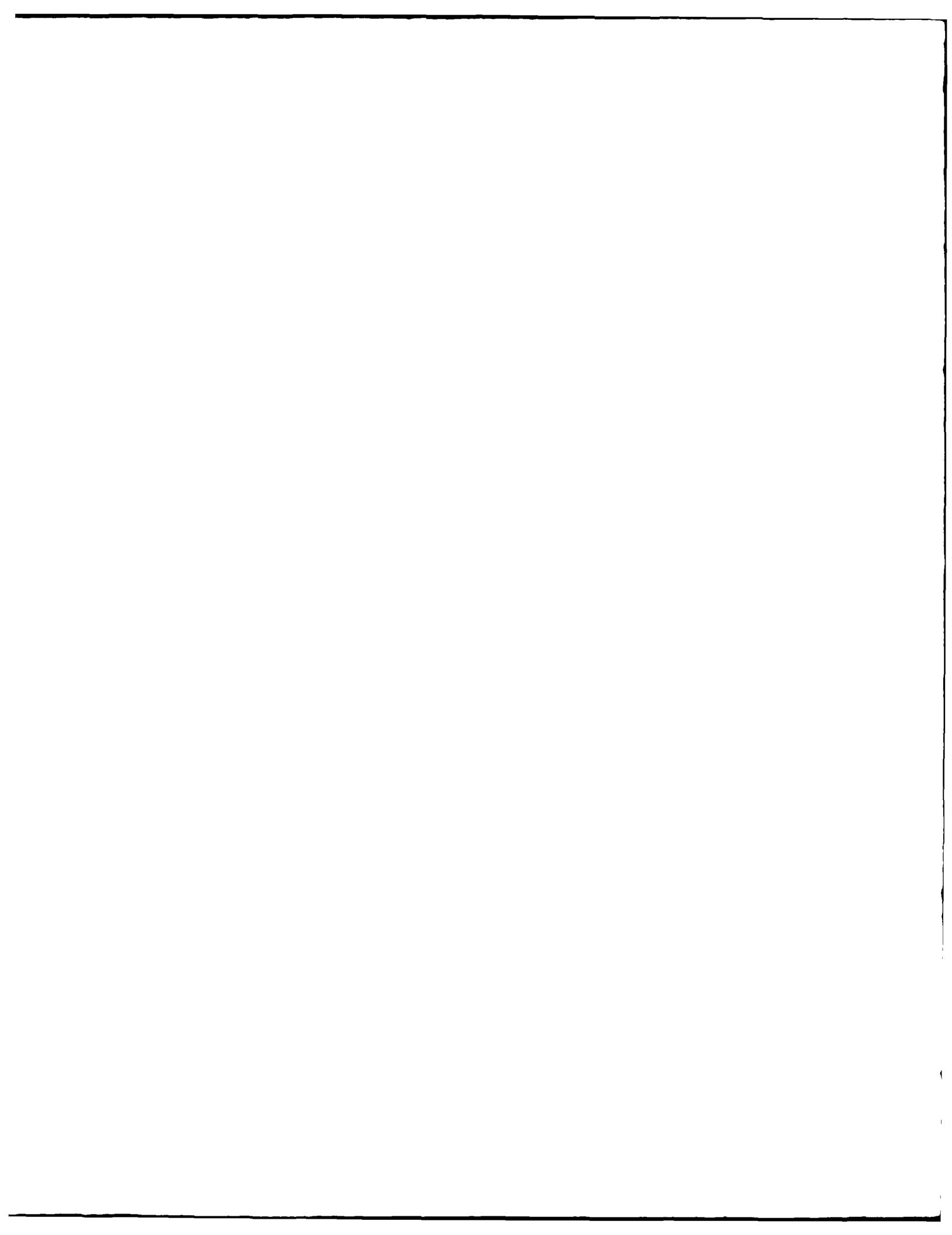
#### C. Evertopping Potential

Based on the hydrologic and hydraulic analysis presented in Appendix C, the combined primary and emergency spillways will pass 68 percent of the Probable Maximum Flood (the Probable Maximum Flood is defined as the 100-year design that may be expected from the most severe combination of rainfall, hydrologic, and meteorologic conditions that are reasonably possible in the region) at the recommended elevation from the Department of Energy. One of the first emergency steps is that the structure constructed up to with high downstream hazard potential passes 100 percent of the PMy without evertopping.

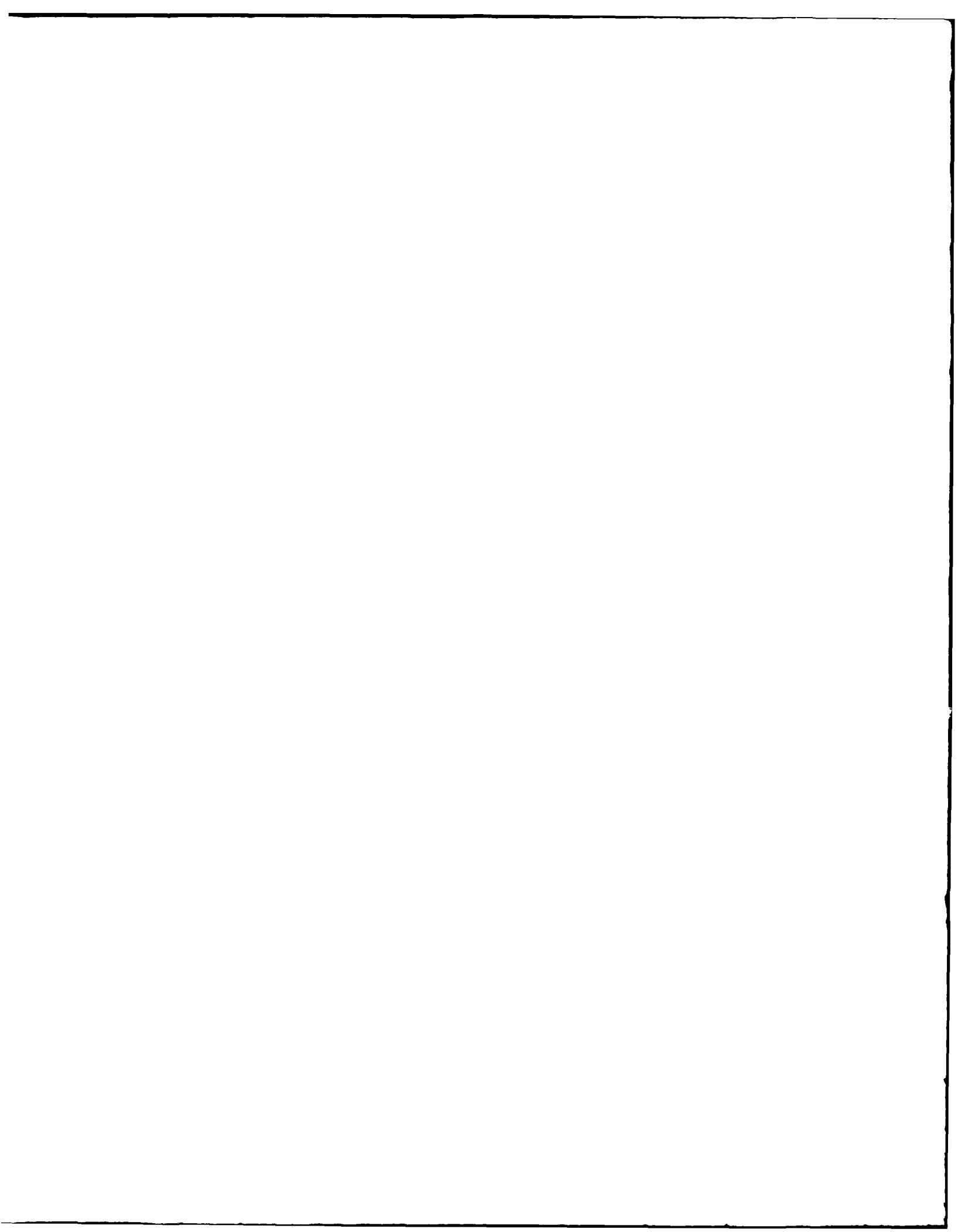
Assumptions of the PMy taken in the spillways and conclusions that the PMy will be evertopped at 4 ft above elevation 3,441. The inundation rate of the evertopping will be .67 hour<sup>-1</sup>, and the maximum outflow will be 300 cfs. The spillway system will be able to pass the 100-year frequency flood without evertopping.



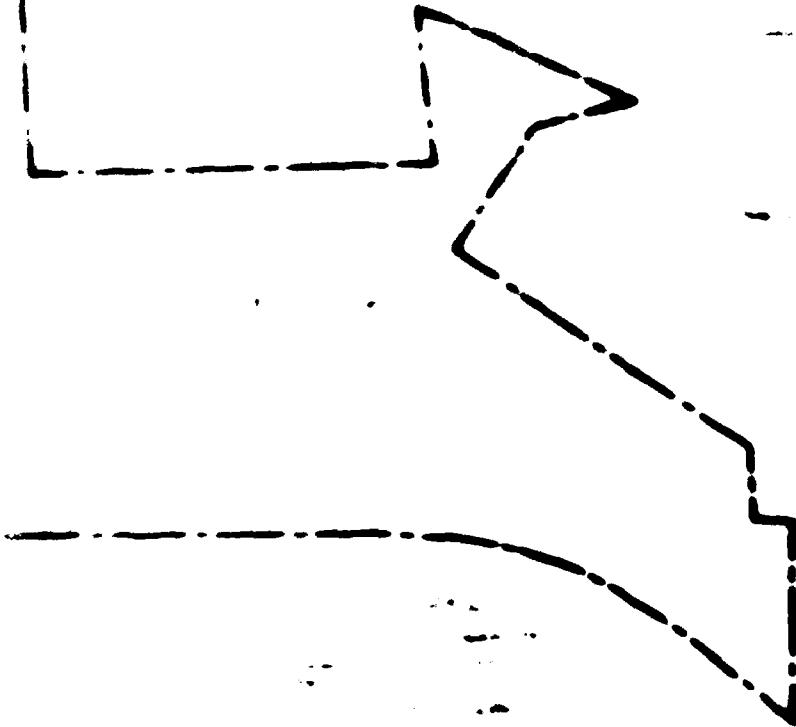








SUBSURFACE INFORMATION



STATE OF MISSOURI  
JOHN W. DALTON  
GOVERNOR

TITLE SHEET

STATE PARK BOARD  
VAN METER DAM  
VAN METER STATE PARK, MISSOURI

FILE NO.  
KC-450

DATE NO.  
[Redacted]

WILLARD CLIFF SHEARND & ASSOC.  
SOIL & FOUNDATION ENGINEERS  
KANSAS CITY, MISSOURI



GENERAL PLAN  
Scale 1:100

• successional or bench - 5% grade  
angle for grade on 7/12/81

FOUNDATION TREATMENT

PLAN  
FOUNDATION TREATMENT & DRAINAGE CONTROL

TYPICAL  
DRAINAGE DITCH

TYPICAL MAXIMUM SECTION

DIMENTATION

三月廿四日

SECTION 5-10

NOTE: To prevent soil wash or  
erosion by surface  
run-off, do not allow

TYPE A SECTION  
WALL MATERIAL

SHEET 3, APPENDIX A

STATE OF MISSOURI  
JOHN M. DALTON  
GOVERNOR

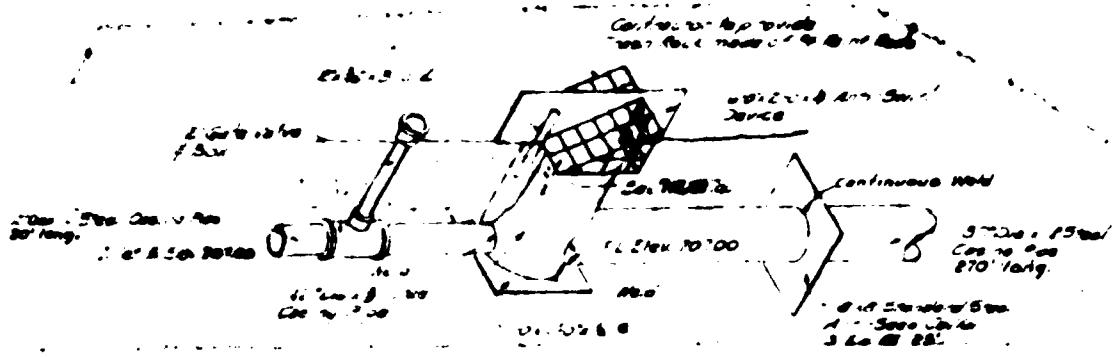
SERVICE & EMERGENCY SPILLWAYS

STATE PARK BOARD  
VAN METER DAM  
VAN METER STATE PARK, MISSOURI

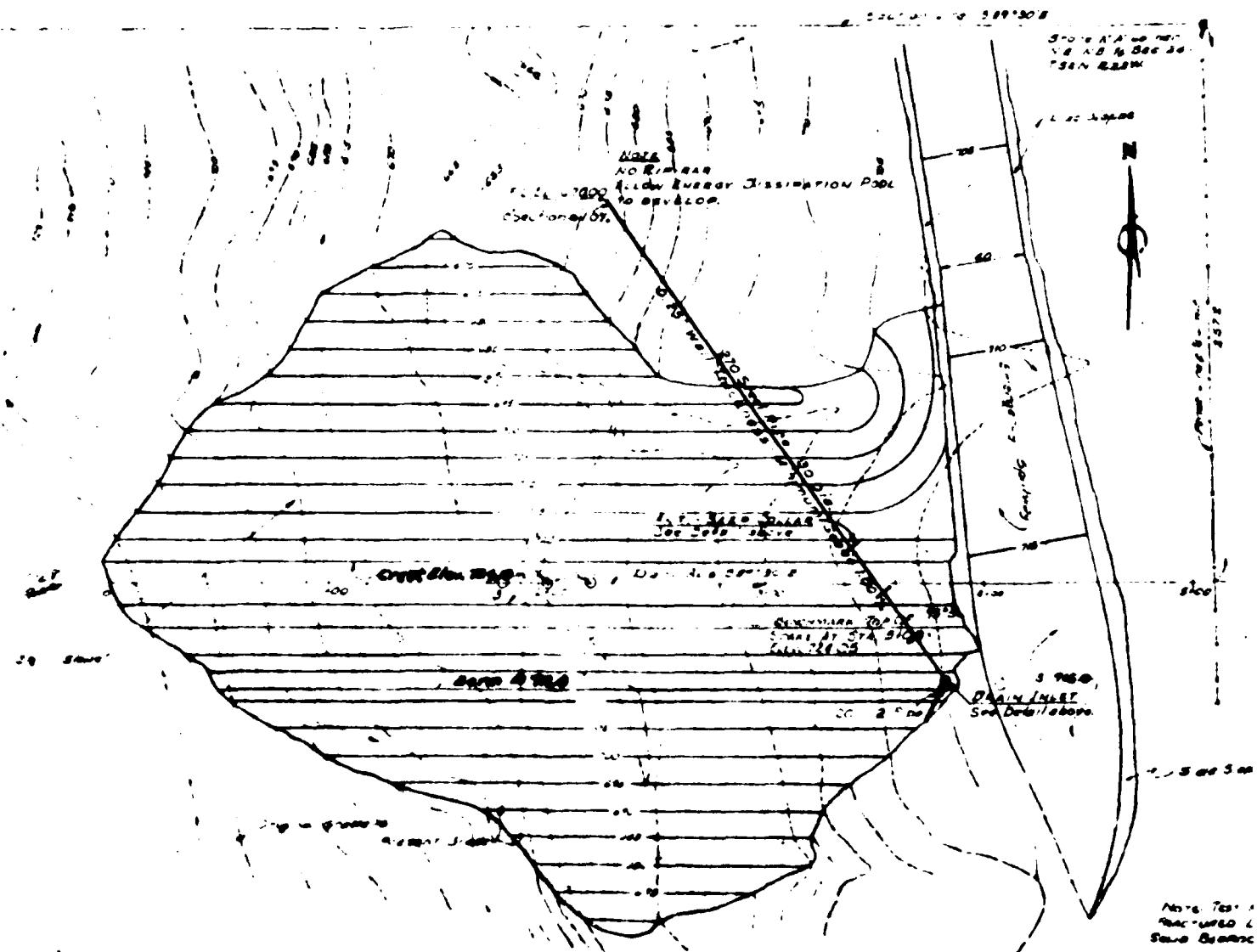
JOB NO.  
KC 490

DATE NO.

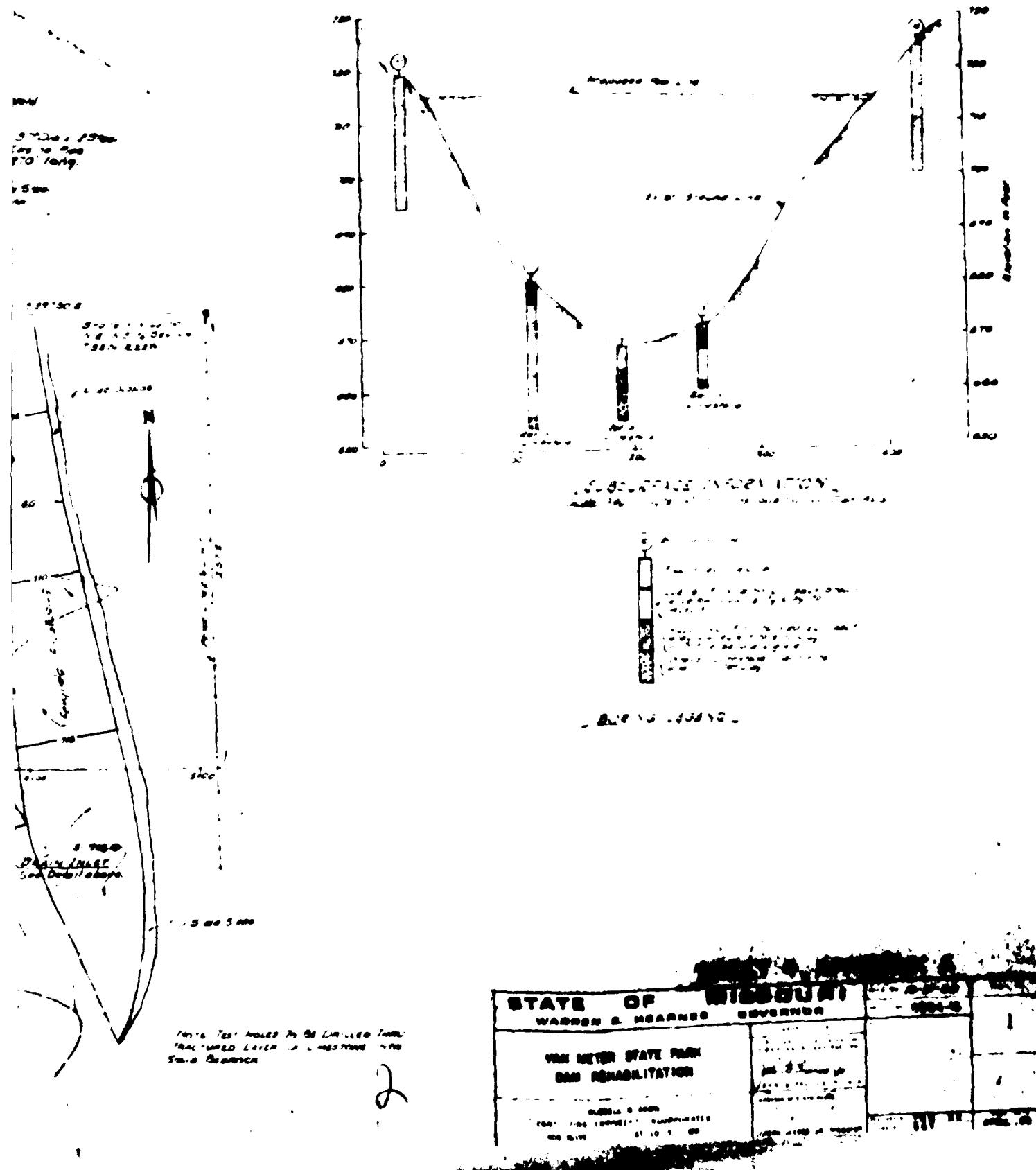
WOODWARD CLYDE SHEARER & ASSOC.  
SOIL & FOUNDATION ENGINEERS  
KANSAS CITY, KANSAS  
MISSOURI



DETAIL OF DRAIN INLET  
& OVERFLOW INTAKE  
NOT TO SCALE



SERVICE PLAN



These Test holes to be drilled later  
and used later in construction of the  
State Dam.

APPENDIX B

## CONSERVATION COMMISSION

1960 FIELD TRIP  
JUN 22, 1960  
TENNESSEE  
M. L.

## MEMORANDUM

Date: June 22, 1960

FROM: Vernon D. Dougherty  
 TO: Floyd C. Larson  
 SUBJECT: Boundaries of Lakesite at Van Meter State Park

The general soil type is Marshall silt loam, a loessial or wind deposited soil. The following percentages are taken from the Missouri State Highway Soils Manual: Sand - 5 to 7; Silt - 31 to 59; Clay - 23 to 29; Retained in No. 160 screen - 0.4 to 1.2.

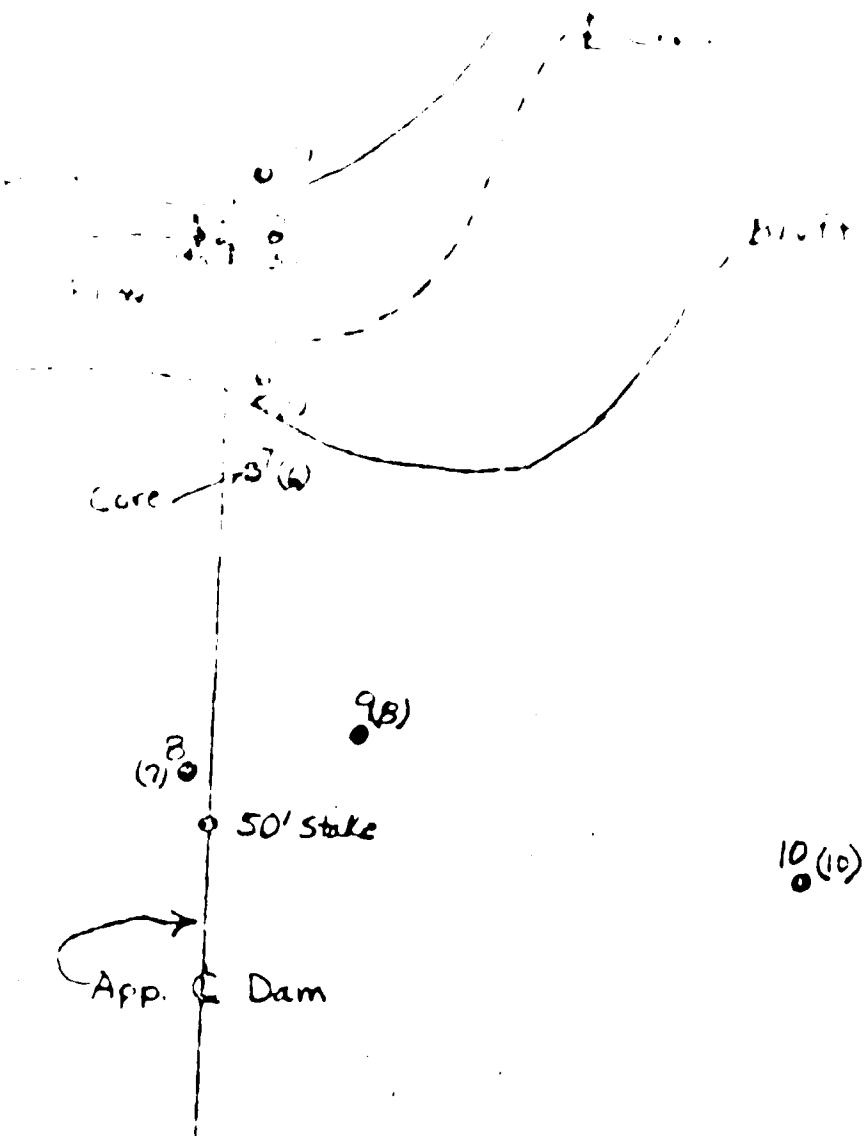
Hole No.	Location	Depth	Remarks
1	(2) In roadway between top of bluff and 30' water-line stakes.	0'-17.5'	Brown silt loam - soft velvety texture and will not ribbon.
2	(1) By big stump on top of north bluff	0'-23' 23'-29' 29'-31' 31'	Brown silt loam. Brownish gray silt loam. Brown silt loam and broken rock. Rock.
3	(4) Centerline of creek at bottom of north bluff. About 1.5' of ramp fill over rock and gravel creek bottom.	6'-12' 12'	Brown gravelly silt loam mixed with large broken rock. Rock.
4	(11) In creek bottom about 4' upstream from No. 3 and about 1' of re- fill over creek bottom.	0'-6' 6'-7' 7'-8' 8'-12.5' 12.5'	Brown gravelly silt loam and broken rock. Brown gravelly sandy clay loam (pocket). (Split Spec. Sample) Brown sandy loam, containing specks of iron deposit. Brown gravelly sandy silt loam and broken rock. Rock.
5	(5) Middle of bottom about 1.5' below natural ground.	8'-6'	Brown silt loam with considerable clay content and mixed with broken rock.

Larson

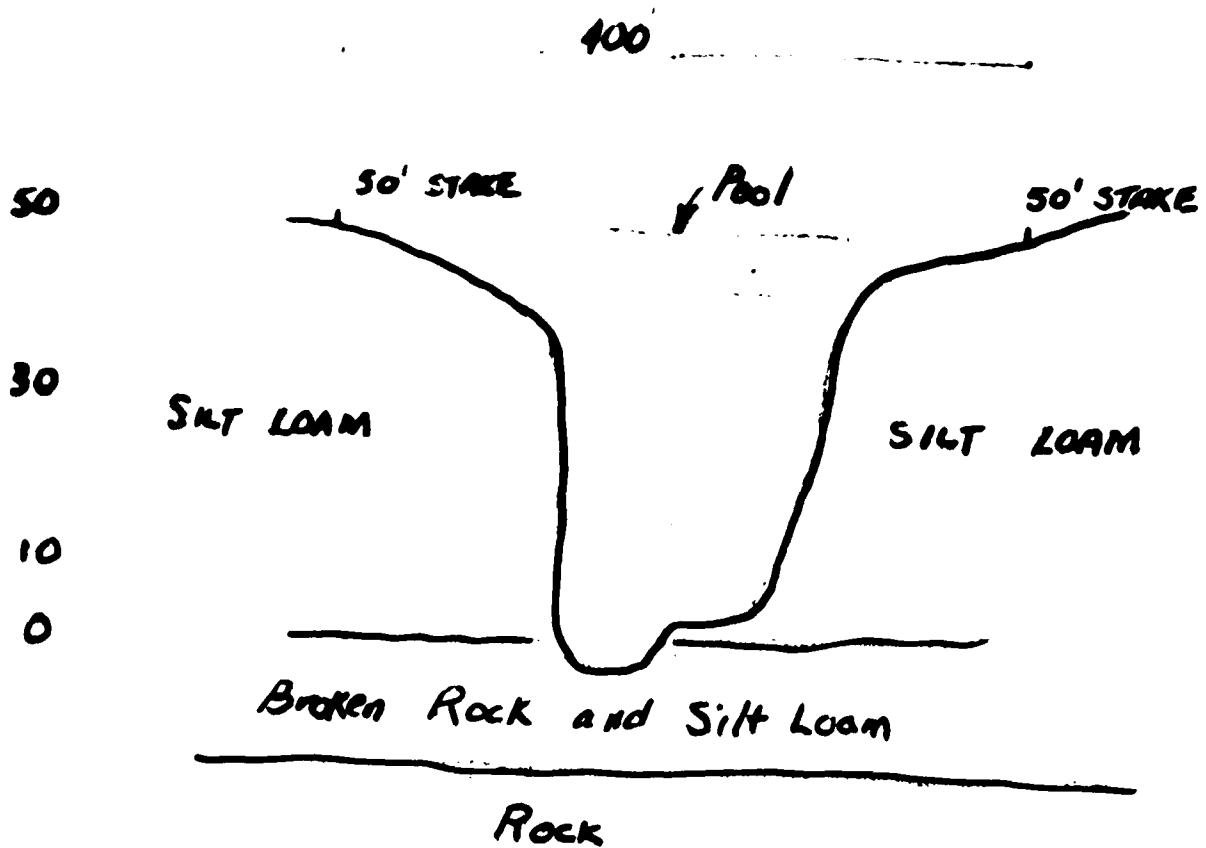
Page 2

June 19, 1948

	<u>Location</u>	<u>Depth</u>	<u>Soil</u>
1	(3) Bottom of south bluff.	0'-4' 4'-10'	Brown silt loam. Some, mixed with gravel, sand & rock.
		10'-14'	Brown silt loam, some sand & 1 piece of sandstone
		14'-15'	Soft then hard rock
7	(6) Top of south bluff.	0'-22' 22'-27' 27'-39' 39'-41.5' 41.5'	Brown silt loam. Some with slightly more clay. Brown silt loam. Brown silt loam with broken rock. Rock.
8	(7) By 30' waterline stake at south end.	0'-8' 8'-9'	Brown silt loam. (Sample) Very dry brown silt loam, fluffy texture.
9	(8) About 30' east of No. 8.	0'-11' 11'-17.5'	Brown silt loam. Dry brown silt loam.
10	(10) Along 50' traverse line on south side, possible waterline borrow.	0'-8' 8'-9'	Brown silt loam. Dry brown silt loam.



SHEET 3, APPENDIX B



Approx profile Between 50' stakes. (Possible Dam Location)

July 21, 1960  
Long distance  
J. F. H.

July 21, 1960

Mr. Joseph Jaeger  
Director of Parks  
Missouri State Park Board  
P.O. Box 176--1206 Jefferson Building  
Jefferson City, Missouri

Dear Mr. Jaeger:

On July 18 I had the pleasure of inspecting the proposed reservoir at Van Meter State Park in conjunction with Mr. Coates, Mr. Grogger, and Mr. Culpepper. A careful inspection of the abandoned limestone quarry near the park and geologic conditions in the reservoir area reveal nothing of an unsatisfactory nature geologically as related to the proposed reservoir. There is no evidence of marked solution, sink holes, or other natural underground drainage which might cause excess leaking of the reservoir. Bedrock is exposed in the stream valley in the reservoir area and it appears that an excessive amount of trenching will not be needed to place the dam on reasonably solid rock.

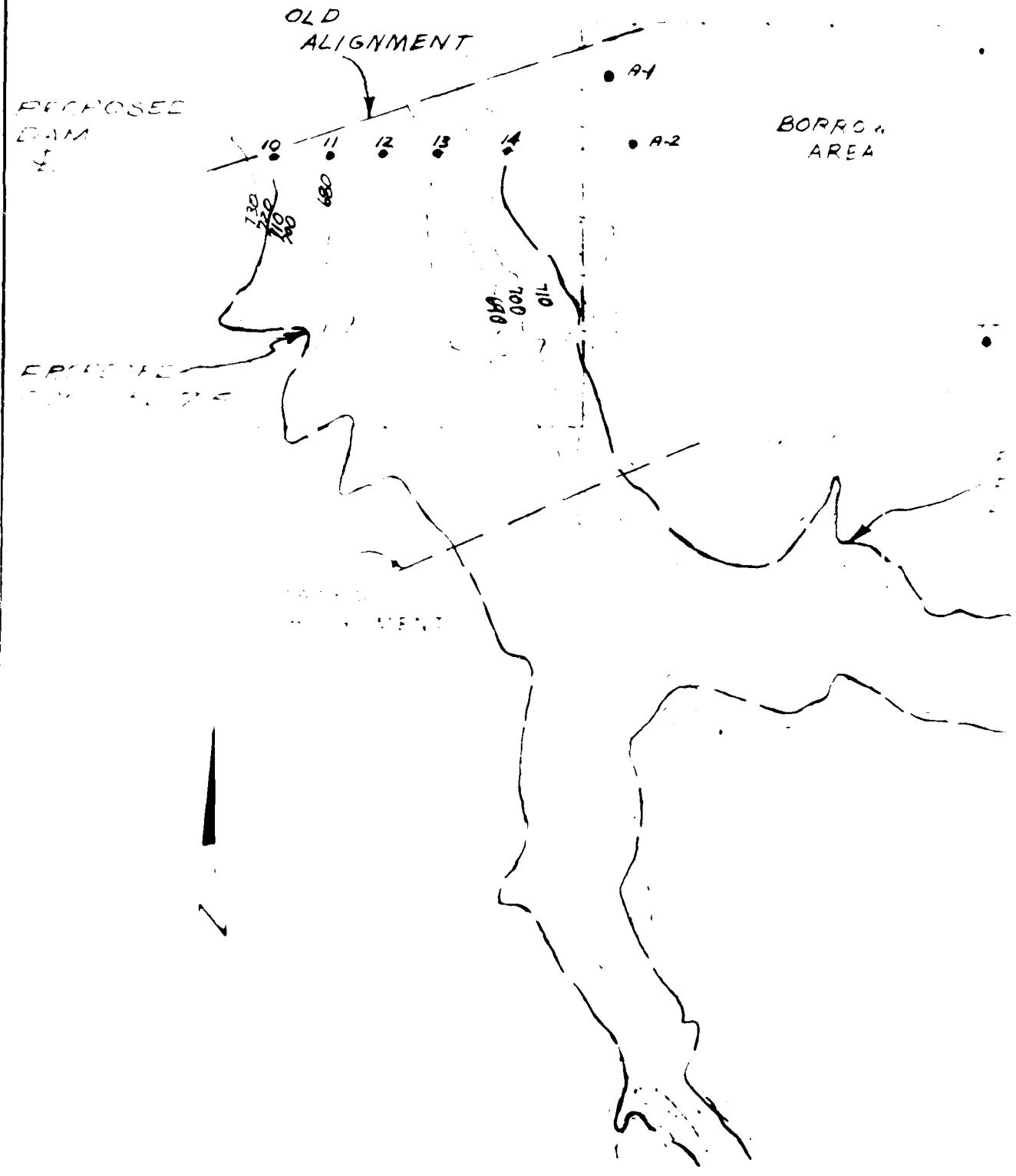
Throughout much of the reservoir area, bedrock is concealed with the exception of in the stream bed and the major visible material is loess, which is predominantly silt in the lower part and contains a higher clay fraction in the upper part. The major problem appears to be one of finding sufficient material for construction of the dam in view of the very low clay content of the lower part of the loess. I concur with Mr. Grogger in suggesting that additional borings be made to make certain that sufficient plastic material is available for construction of the dam. And I believe all of us agree that leakage does not appear to be a major problem.

As you undoubtedly realize, one cannot make a 100% guarantee on any reservoir site, but this one is, in my opinion, a satisfactory one if sufficient material can be found.

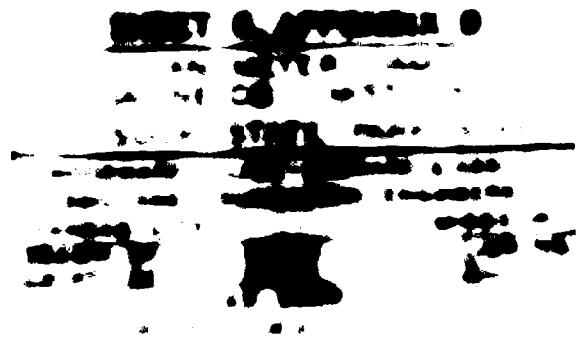
With personal regards,

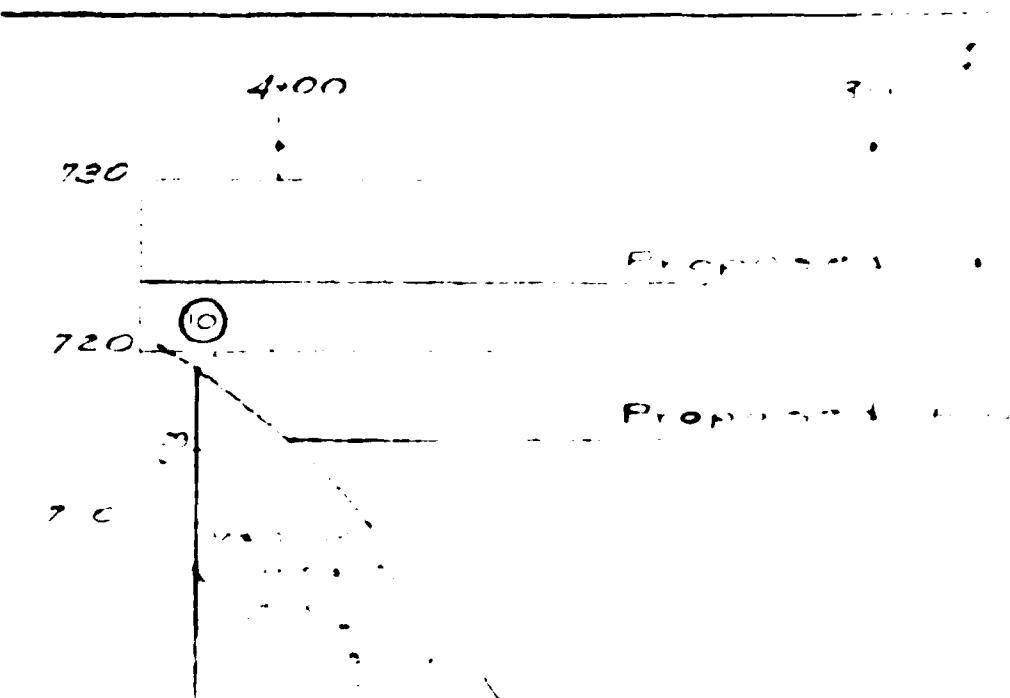
Thomas F. Beeveridge  
State Geologist

SHEET 5, APPENDIX E



100



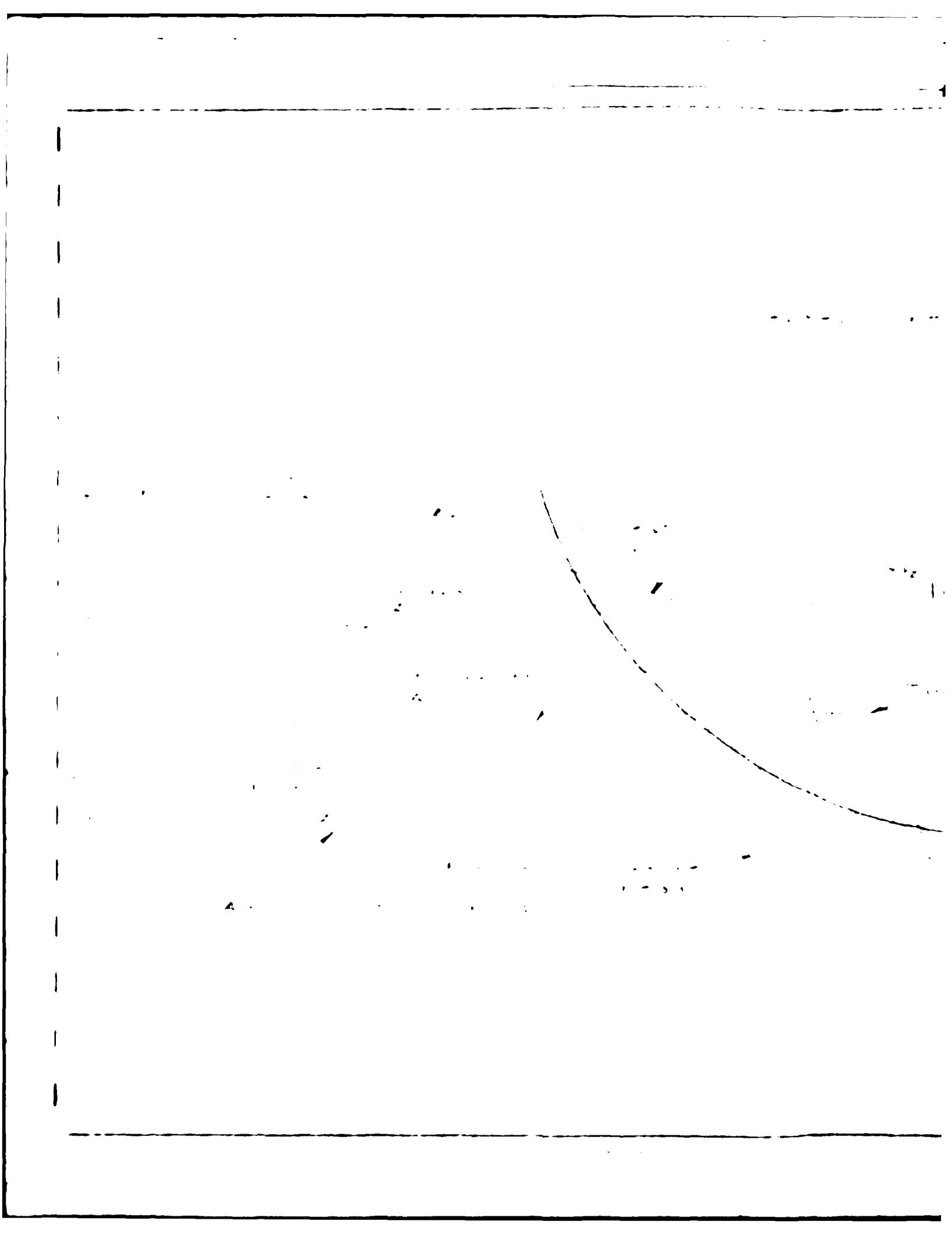


Exponentials

Proportionality

122: 21

SHEET 8, APPENDIX B



### RESULTS

Method Condition Factor of Safety

Test 42 - Cohesionless  
Soil, angular  
filter

Shear Strength As about 57

Components 6,000

Friction

Intergranular as 1.

No toe drain 120  
60-030

3.1, no toe 45

60-030

60-021

Circle

O 10' 0"

Radius 10'

Circular Failure Surface

### SHEET 9, APPENDIX B

VAN PETER DAM SALLIE COUNTY, MISSOURI MISSOURI STATE PARK BOARD
---

WOODWARD-CLYDE SHERARD & ASSOC SOIL AND FOUNDATION ENGINEERS KANSAS CITY	MISSOURI
--	----------

DRAWN BY CM'DATE 1-2-62 CH'D BY DATE	JOB NO. CC-111
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STABILITY ANALYSIS	FIG NO 11
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Results of all the tests performed are presented on the Summary Table, and on Figures 3 through 11. It is noted that Figures 3, 4 and 5, present the results of grain-size determinations from data obtained by others and are presented for correlation purposes and as an indication of the areal characteristics of the major constituent material.

#### SITE AND FOUNDATION CONDITIONS

The proposed dam and lake site is typical of valleys eroded in loessial deposits immediately adjacent to the Missouri River. Side slopes in the valley proper are very steep, approaching the vertical, and gully and sheet erosion in adjoining areas are evident. The site is presently covered by timber of various sizes. Ground cover is generally fairly dense. For purposes of hydrologic analyses, the site may be described as rolling, timber-covered area with general slopes averaging from 4 to 8 percent. With a water line at the proposed elevation of 715, the lake area is estimated at 15.4 acres, or approximately 1/14 of the total watershed (estimated at 212 acres (33 square miles)). The total volume of the lake with storage to elevation 715, is 316 acre-feet. Surface storage to elevation 720 provides an additional 77 acre-feet. The embankment required to complete storage to this elevation will be 365 feet in height at water line, with a maximum height from water line (permanent pool level) to the existing stream bed of approximately 51 feet.

Field and laboratory data indicate the loessial origin of the overlying soil deposits and their considerable thickness at the embankment areas. The upper portions of the loess are moderately compact with densities between 85 to 95 pounds per cubic foot. In these depths the natural water contents, although the soils are not fully saturated, are in the vicinity of the plastic limit of the material and are considerably higher than those associated with very loose, loessial deposits. A significant change with depth is indicated, however, and the lower portions of the loess are considerably looser. It is believed that the variation in unit weight has occurred because of saturation following runoff.

periods, 1918, 1919, in the lower portions of the profile are considered to be successive to roads and streams, and that they were present in the upper portion of the profile before the period when the road was constructed. From 1918 to 1920 the extent of lateral differentiation probably increased, but the power of the stream to move material decreased. The amount of material moved by the stream decreased as the process continued, particularly after 1920. The stream has had time to adjust to the new condition. The amount of material deposited by the stream varies with the water level. The amount of material deposited by the stream varies with the water level. At first, at two stages, one of these deposits, a coarse one, was removed by the stream. For this reason, the water level decreased. It will be noted that when separated from the stream, the density of 8 pounds per cubic foot was maintained. The decrease in density indicated a reduction of the amount of material at low density, which consisted of fine sand, silt, and organic material.

Comparison of the  $\tau = 170$  characteristics of the two antennas shows very similar characteristics with diff. with the area of the dip centerline and a connected effect of previous area studied.

Below approximately elevation 6800 ft. in the present stream valley the loessial materials are covered by a layer of valley alluvium thickness. This alluvium is apparently well sorted, fine-grained, loamy material, its source being weathered and transported by stream action and, subsequently, redeposited as stream sediments. The present condition is generally similar with regard to the top 100 ft. of section in the upper portion, resulting from the same causes and in considerable accordance with the earlier stage. The materials have been derived from the same sources, probably the same terrace, but are now redeposited in the flood plain. The valley alluvium deposited in the lower portion of the valley is, however, derived directly from the bedrock, and the material is therefore coarser, after being washed down from the higher levels. The valley alluvium is, therefore, derived from the bedrock.

sample indicates a medium-large magnitude. It is pertinent to note that sedimentation has undoubtedly sorted materials sufficiently so that permeability in the horizontal direction is greater than the vertical value obtained in the laboratory. This was confirmed by rough field observations.

The terrace and alluvium are underlain by limestone bedrock. It is apparent that the bedrock slopes, at the dam centerline, from south to north, falling approximately 15 feet between Boring's 13 and 11. The bedrock is overlain by a 1- to 2-foot layer of limestone fragments embedded in a matrix of fine-grained soils.

#### DESIGN STAGE

General - Analysis of the earth embankment and appurtenant structures has been completed in accordance with accepted procedures. The reference used to check minimum standards and to provide methods of analysis is the manual, Design of Small Dams, published by the Bureau of Reclamation in 1960. This book presents procedures and many examples of designs used effectively by the Bureau in the course of its design of numerous small water-retaining structures. Where deemed desirable, methods or approaches, not documented in the above reference, were utilized; this is particularly true in regards to the hydrologic estimates. Basic data for design computations is presented in Rainfall Frequency Atlas of the United States, Weather Bureau, U. S. Department of Commerce, May, 1961.

Hydrographic Analysis - Storm runoff and peak-quantity estimates are computed in accordance with unit-hydrograph methods. A unit-hydrograph was constructed assuming a design storm of 26 inches for a 6-hour duration, as recommended by the Bureau of Reclamation's compilation of data. For this strainient condition, a peak flow of approximately 3,500 feet per second is indicated, with a maximum period of rainfall of 12 inches per hour. The U. S. Weather Bureau has recorded such a rainfall intensity in the area, actually 42 miles away from the dam site, but indicates that this was an extremely unusual rainfall and that it was probably three times higher than the 30-year return rate of 10-year

frequency shown in the Atlas. This consideration, together with rough spillway requirements for a 3,500-second-foot peak, made revision to less conservative design requirements most desirable. This is in accordance with accepted practice for situations where damage, because of overtopping and possible dam failure, is not catastrophic.

In view of the design situation presented, a reduced design storm was approximated by several methods. It is important to note that the time of concentration for the relatively small area involved is slightly less than 10 minutes and, consequently, disregarding changes in antecedent ground conditions, a peak profile will occur for maximum intensity 8 days duration, or greater, and the concentration period. Results of the various analyses, made utilizing the various procedures, are summarized in the attached Table 2.

On the basis of these results, it was decided during the study to provide sufficient capacity to accommodate a 30-second peak flow. It should be noted that as far as the magnitude of the latter area indicates that a 30-second peak would occur at least once in an interval of about one hour. At the same time, the peak would drop to the level by approximately 1 foot in one second. According to these approximations, the peak outlet will occur at approximately 40 percent of approximately 17,000 seconds or approximately 4,000 seconds. Approximately 40 percent of the maximum flood, under the determined conditions, are present and the outlet is open. The following table compares present design capacity with the proposed design capacity. Significant capacity will be provided for the first 100-year frequency. The outlet is controlled by a valve which is to be operated by a procedure. As provided, the valve is set

ment slopes were pre-treated by cutting the grass horizontally to level the ground surface. The grass was then cut off at the same height as the grass in the adjacent areas.

from maximum stage has not been considered. Consequently, the downstream slope at steady seepage is the critical design condition. The stability of the embankment was checked by methods of analysis presented by Bishop (see "Stability Coefficients for Earth Dikes," A.M. Bishop and Torenbeek, *Geotechnique*, and references therein) proposed for construction of the dam. The analyses were carried out for a range of soil properties and the results of the analyses are summarized below.

The following table summarizes the results of the stability analyses of the dam. The values of the safety factor are given for the various ranges of soil properties and the corresponding ranges of the calculated factors of safety. The values of the safety factor are given for the various ranges of soil properties and the corresponding ranges of the calculated factors of safety.

CHART OF THE UNITED STATES  
AND MEXICO  
1855

SHEET 16, APPENDIX B

MAXIMUM RADIANT -  
EMISSION FACTOR

REDUCED MAXIMUM  
FACTOR 0.1 - 0.5

ASSUMED 0.5

PROPOSED

ELASTIC TIME

HOURS

SHEET 17, APPENDIX B

VAN METER DAM	
SAITTE COUNTY, MISSOURI	
MISSOURI STATE PARK BOARD	
WOODWARD - CLYDE - SHERARD & ASSOC	
SOIL AND FOUNDATION ENGINEERS	
KANSAS CITY	MISSOURI
DRAWN BY CHADDOCK 12-22-61	
CH'D'D. BY DATE	JOB NO. K-452
UNIT	FIG NO.
HYDROGRAPHS	
12	

SHEET 18, APPENDIX B

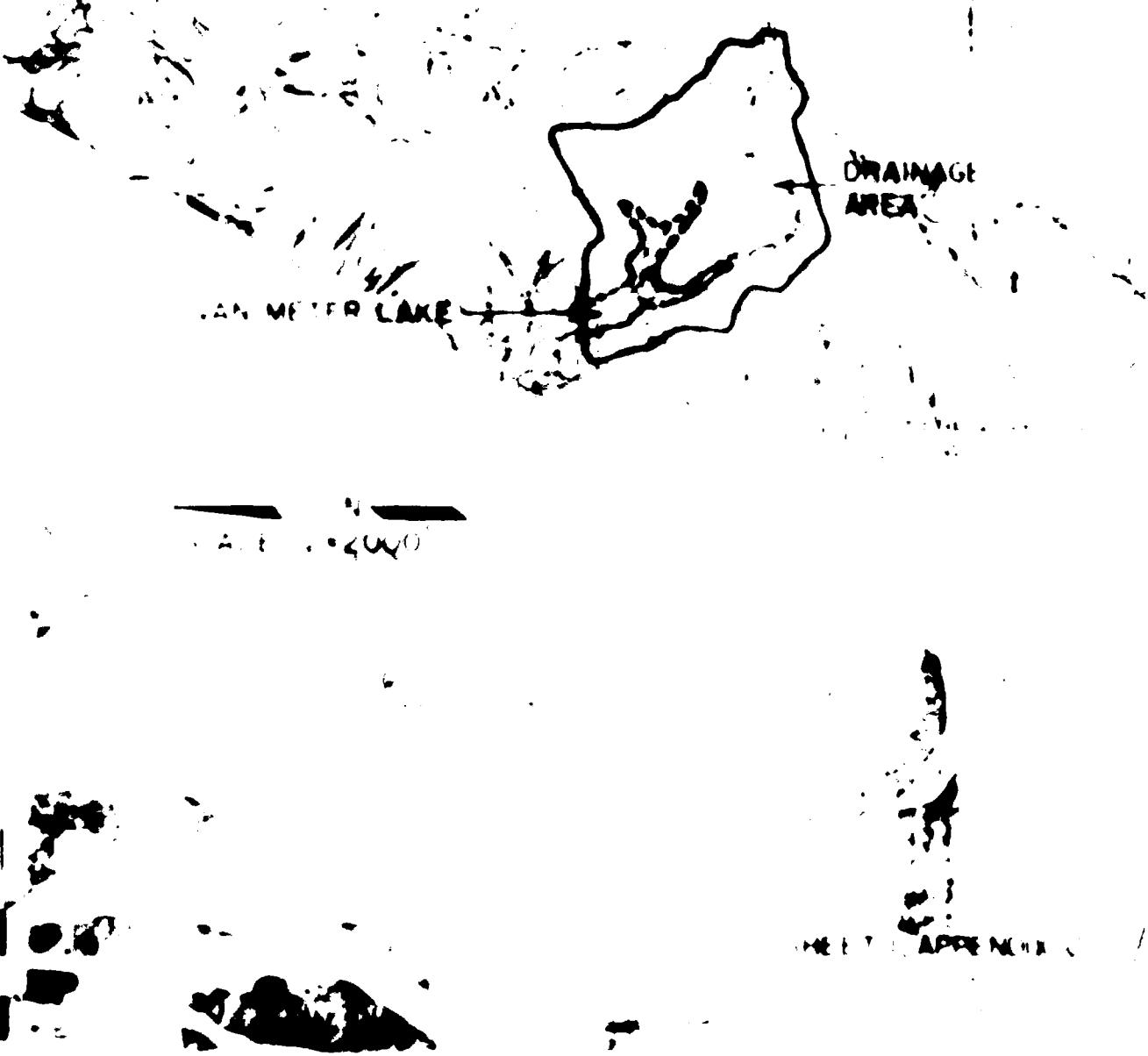
SHEET 4 APPENDIX

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1. The first step in the process of determining the best way to meet the needs of the people of the state is to determine what those needs are. This can be done by a variety of methods, such as surveys, interviews, and focus groups. The results of these studies will provide a clear picture of the needs of the people of the state.

2. Once the needs have been identified, the next step is to develop a plan to address them. This plan should be developed in consultation with all relevant stakeholders, including the people who will be affected by the changes. The plan should be realistic and feasible, and should take into account the resources available.

3. The third step is to implement the plan. This involves putting the plan into action and making sure that it is carried out. It may be necessary to make some adjustments along the way, but the overall goal should remain the same.

4. Finally, the fourth step is to evaluate the results. This involves assessing whether the plan has been successful in meeting the needs of the people of the state. If it has not, then steps should be taken to improve it. This may involve making changes to the plan or developing a new one.

5. In conclusion, the best way to meet the needs of the people of the state is to follow a systematic process that involves identifying the needs, developing a plan, implementing the plan, and evaluating the results. This approach ensures that the needs of the people are met in a timely and effective manner.

1980-1981 school year

1980-1981 PTA Budget - Item # 8, 44

Item # 8, 44 - Fundraising Committee and Expenses  
Total amount spent \$1,000.00  
Amount spent on tickets \$1,000.00

Computer Impatiens Outfitting and Training \$0.00

*Appendix C*

*Sheet 5 Appendix C*

## ANNEE 1970

## TITRE ET AUTEUR

OPERATION DE TIRAGE

AREAS

HORLOGERIE

0.33

0.85

SILENT

0.33

0.85

SILENT

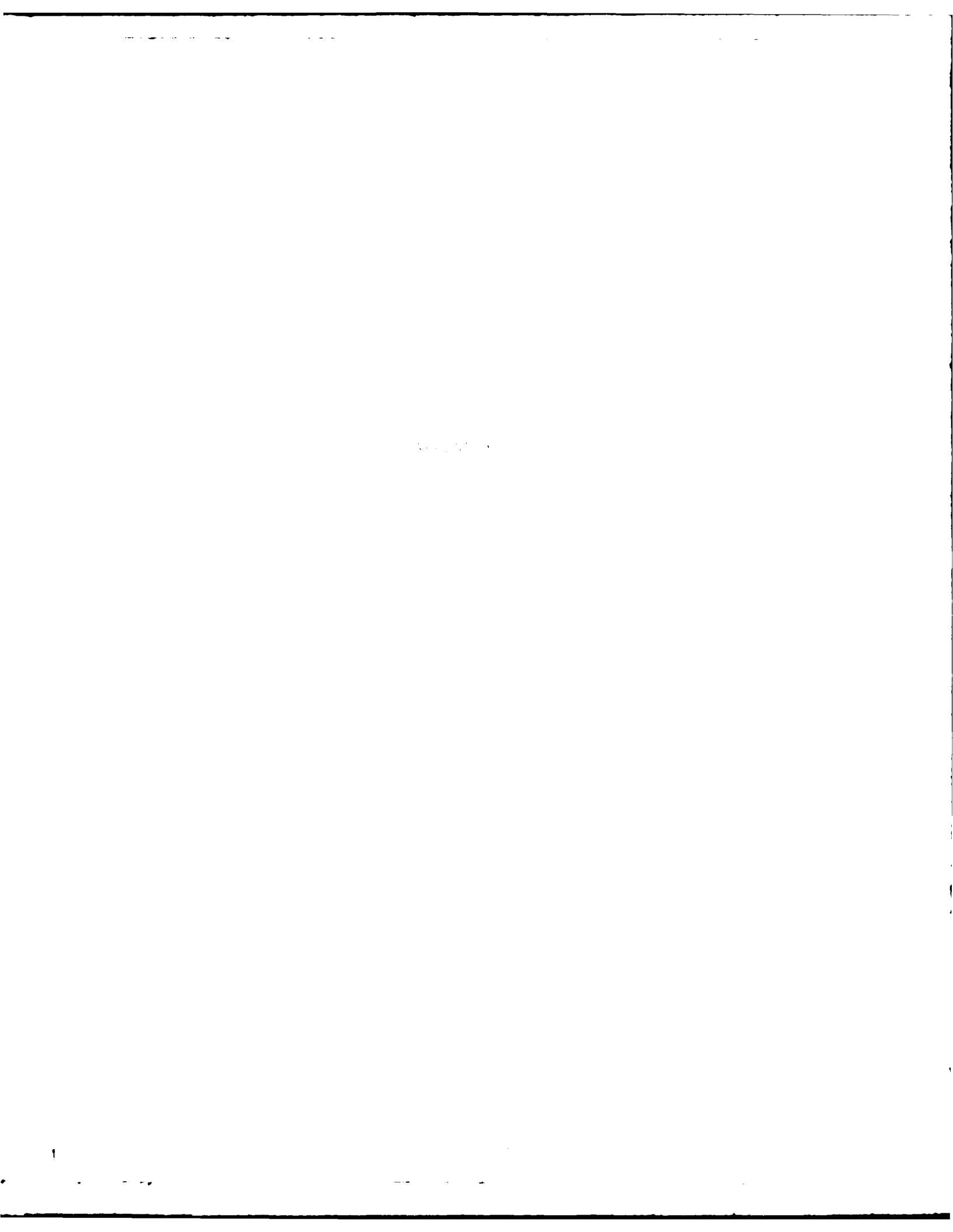
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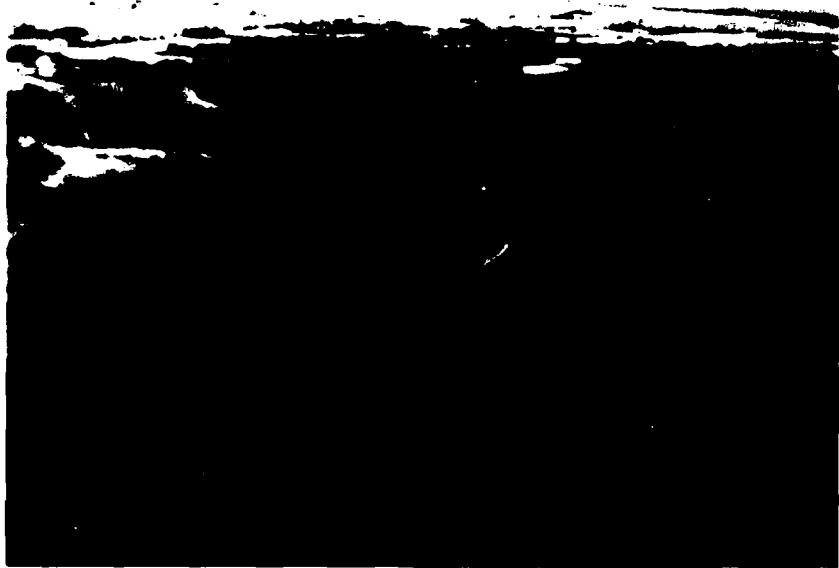
SILENT

SILENT

RATIO	MAXIMUM OF PME	PERCENT W.S.E.C.	PERCENT P.M.E.	NUMBER OF C	NUMBER OF C
0.20	723.47	0.71	4.6	1.4	1.4
0.30	724.66	0.71	4.6	1.4	1.4
0.40	725.47	0.71	4.6	1.4	1.4
0.50	726.34	0.00	5.4	6.85	6.85
0.60	727.64	0.00	5.4	9.85	9.85
0.70	727.61	0.11	5.4	13.11	13.11
0.80	727.96	0.46	5.4	19.23	19.23
1.00	728.44	0.94	5.4	30.67	30.67

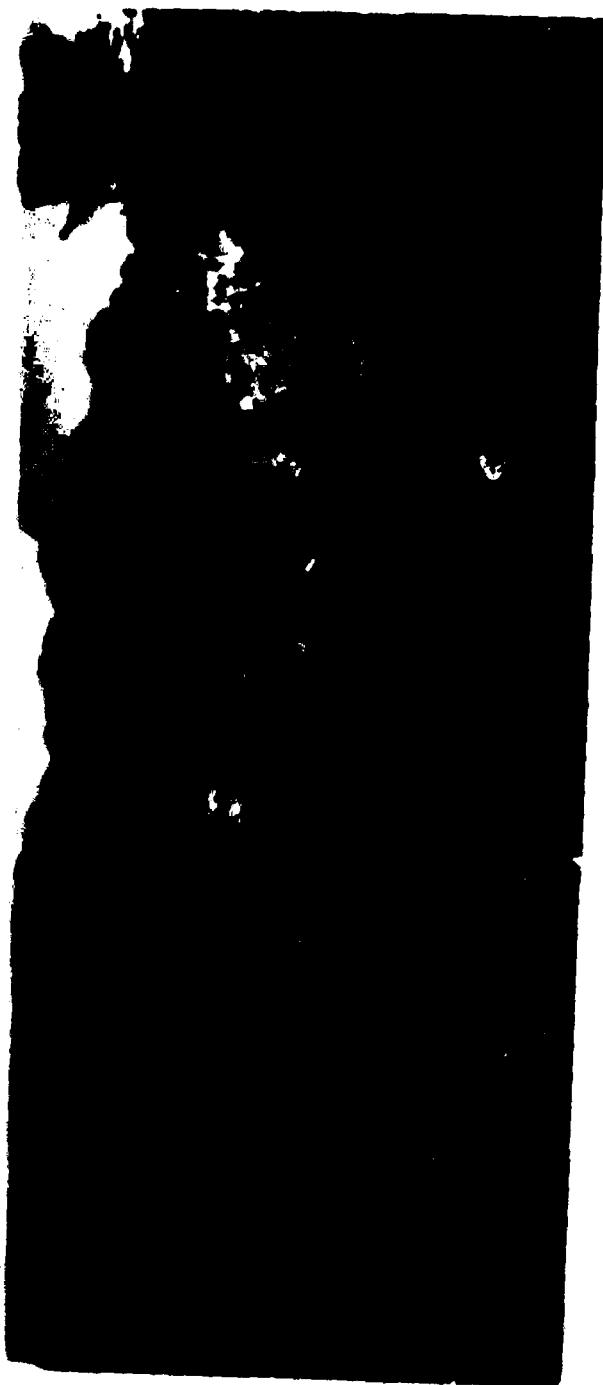
*Sheet 6 Appendix C*





Aerial Views of Lake and Dam

Sheet 1 Appendix D





Downstream Face of Dam



THE END OF THE LINE



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END

DATE

FILMED

12-81

DTIC